



Courses of Instruction

Sections of courses are listed in alphabetical order, by the prefix of the academic discipline. Credit notations on the far right are in the pattern 3-0-3. The first number is the number of lecture hours (or equivalent) each week; the second number is the number of laboratory hours (or equivalent) each week; the third number, **in bold**, is the number of semester hours credit. The suffix H designates Honors Courses; the suffix K designates courses in which a laboratory is included; the suffix L designates a lab course that is separate.

ACCT: ACCOUNTING

- ACCT 2101 Principles of Accounting I** 3-0-3
An introduction to financial accounting that emphasizes accounting's role in business and society. The course develops an understanding of the financial statements of economic entities.
- ACCT 2102 Principles of Accounting II** 3-0-3
Prerequisite: ACCT 2101 with a grade of "C" or better. An introduction to managerial accounting. Emphasis is placed on understanding internal accounting documents and analyzing these documents to render logical and economically feasible decisions.
- ACCT 3201 Intermediate Accounting I** 3-0-3
Prerequisite: ACCT 2102. An examination of the conceptual tools used for financial reporting. This course examines the operation of the accounting information system, research techniques, and the application of time value of money concepts in financial reporting.
- ACCT 3202 Intermediate Accounting II** 3-0-3
Prerequisite: ACCT 3201. An examination of the financial reporting issues surrounding the revenue and expense recognition, current assets, long-lived assets, and stockholders' equity.
- ACCT 3203 External Reporting** 3-0-3
Prerequisite: ACCT 3201 with a grade of "C" or better. An examination of the financial reporting issues surrounding investments, liabilities, cash flows, and other advanced topics.
- ACCT 3400 Cost Accounting** 3-0-3
Prerequisite: ACCT 2102. A study of product cost determination. Inventory valuation, planning, control, and financial reporting are emphasized in this course.
- ACCT 3370 Financial Statement Analysis** 3-0-3
Prerequisite: FIN 3350. An introduction to financial statement analysis. This course emphasizes the use of publicly disclosed financial information to enhance economic decision making.
- ACCT 3900 Not-For-Profit Accounting** 3-0-3
Prerequisite: ACCT 2102. A study of fund theory and practice. Accounting for governmental entities, educational organizations and other not-for-profit entities are examined.

- ACCT 4220 Advanced Accounting** 3-0-3
Prerequisite: ACCT 3202. Concepts and techniques necessary for the preparation of consolidated financial statements and accounting for partnerships. The course is primarily designed as an intensive study of working papers necessary to integrate the financial information of multiple legal entities into a single set of statements reflecting the single economic entity.
- ACCT 4400 Internal Reporting and Analysis** 3-0-3
Prerequisite: ACCT 3400. An examination of product cost data with an emphasis on using those data to improve decision-making within the firm.
- ACCT 4410 Accounting Information Systems** 3-0-3
Prerequisites: ACCT 3201 and ACCT 3400. An introduction to the use of accounting information systems within an organization. The control and communication of files and databases are studied. Applications requiring the use of spreadsheets, relational databases and general ledger software applications are used in this course.
- ACCT 4500 Individual Income Tax** 3-0-3
Prerequisite: ACCT 2102. Introduction to federal income taxes including the elements of income, income exclusions, tax credits, capital gains and losses. Emphasis is placed on understanding the executive, legislative and judicial aspects of the tax law. Research is required.
- ACCT 4510 Corporate and Partnership Taxation** 3-0-3
Prerequisite: ACCT 4500. An introduction to the tax aspects of corporations and partnerships. This course emphasizes the history, status, and prospects of tax law as it pertains to the corporate and partnership forms of business.
- ACCT 4800 Auditing** 3-0-3
Prerequisite: ACCT 3202 and ACCT 3400. Concepts and techniques required for financial statements and operational audits.
- ACCT 4850 Accounting Internship** 3-0-3
Prerequisite: Faculty approval. The application of academic accounting skills and values in an employment situation. A research project, approved by a faculty member and the employer, is required.
- ACCT 4990 Directed Study in Accounting** 3-0-3
Prerequisite: Faculty approval. A special project undertaken by the student. The project is guided by a faculty member and culminates in a research report.

ACED: ADULT AND CAREER EDUCATION

- ACED 1100 Introduction to Business** 3-0-3
 An overview of business principles and practices. Emphasis on developing an awareness of banking, marketing, finance, insurance, and organizational design. Will include ethical and human relations issues. Open to all majors.
- ACED 2000 Beginning Keyboarding** 3-0-3
 Development of basic touch keyboarding skills. This course provides an introduction to formatting letters, research papers, and miscellaneous documents. Emphasis is placed on developing straight-copy speed and accuracy. Exemption test available.
- ACED 2050 Communications for the Workplace** 3-0-3
Prerequisite: ENGL 1102. Principles of effective oral and written communications. A thorough review of grammar, sentence and paragraph construction, punctuation, and writing techniques. Emphasis on the job-getting process.

- ACED 2400 Computer Technology for the Workplace** 3-0-3
Introductory, hands-on computer applications for development of workplace skills. Topics include word processing, databases, spreadsheets, communication, and presentation software. Exemption test available.
- ACED 2900 Basic Theory in Vocational Education** 3-0-3
Reserved for the granting of academic credit based on either successful completion of the National Occupational Competency Examination (NOCTI Examination), approved professional licensure, or experiential credit based on past work experience. Requires approval of academic advisor prior to registration.
- ACED 2950 Basic Skills in Vocational Education** 3-0-3
Reserved for the granting of academic credit based on either successful completion of the National Occupational Competency Examination (NOCTI Examination), approved professional licensure, or experiential credit based on past work experience. Requires approval of academic advisor prior to registration.
- ACED 2960 Intermediate Skills in Vocational Education** 3-0-3
Reserved for the granting of academic credit based on either successful completion of the National Occupational Competency Examination (NOCTI Examination), approved professional licensure, or experiential credit based on past work experience. Requires approval of academic advisor prior to registration.
- ACED 3000 Intermediate Keyboarding** 3-0-3
Prerequisite: Grade of “C” or better in ACED 2000 or exemption. Continued emphasis on speed and accuracy building. Detailed coverage of business letters, memos, multiple-page reports, and miscellaneous documents. Exemption test available.
- ACED 3100 Computer Systems** 3-0-3
A general overview of computer hardware and networks. Emphasis is placed on developing basic technological expertise and leadership in administering computer technology in the workplace.
- ACED 3400 Applied Computer Technology** 3-0-3
Prerequisite: ACED 2400 or consent of instructor. Development of intermediate and advanced skills in the use of word processing, spreadsheets, databases, communications, and presentation software. Emphasis placed on creation of computer projects appropriate to the student’s major.
- ACED 3500 Beginning Vocational Teacher Competency Development** 3-0-3
Reserved for the granting of academic credit based on either successful completion of the National Occupational Competency Examination (NOCTI Examination), approved professional licensure, or experiential credit based on past work experience. Requires approval of academic advisor prior to registration.
- ACED 3510 Advanced Theory in Vocational Education** 3-0-3
Reserved for the granting of academic credit based on either successful completion of the National Occupational Competency Examination (NOCTI Examination), approved professional licensure, or experiential credit based on past work experience. Requires approval of academic advisor prior to registration.
- ACED 3520 Advanced Skills in Vocational Education** 3-0-3
Reserved for the granting of academic credit based on either successful completion of the National Occupational Competency Examination (NOCTI Examination), approved professional licensure, or experiential credit based on past work experience. Requires approval of academic advisor prior to registration.
- ACED 3600 History and Philosophy of Vocational Education** 3-0-3
Historical and philosophical development of vocational education. Emphasis on economic and social impact, issues, trends, principles, and objectives of vocational education, and its relationship to other educational programs.

- ACED 3610 Web Design and Multimedia** 3-0-3
 Development of the knowledge and skills necessary for utilizing web editing and graphics programs effectively. This course will focus on the design and production of web sites and other materials for use in educational and training environments.
- ACED 3650 Vocational Education for Learners with Special Needs** 3-0-3
 Provides insight into the identification and characterization of learners with special needs, assessment of their individual needs, and the teaching strategies necessary to meet their identified needs by establishing a positive learning environment. Emphasis is placed on planning programs to develop the potential of special needs learners at the secondary and postsecondary levels.
- ACED 3700 Desktop Publishing** 3-0-3
Prerequisite: ACED 2400 or consent of instructor. Development of desktop publishing concepts and their application to the modern office. Basic, intermediate, and advanced features of a variety of application programs for page design will be used to create various business-related documents.
- ACED 3850 Principles of Adult Education** 3-0-3
 Provides insight into the unique opportunities and challenges of the adult learner as examined in a learning setting. Concepts, theories, and practices will provide students with opportunities to manage pertinent issues, problems, and possible solutions in their work as instructors of adult learners. Emphasis is given to understanding the effect this knowledge has on the teaching-learning process in adult education.
- ACED 3860 Program Development in Adult and Continuing Education** 3-0-3
 Insight into, and working knowledge of, the field of adult and continuing education programming. Emphasis is given to understanding the practical and theoretical foundations upon which adult program formation is based, and reflects the needs and interests of the individual, recreation leisure community, and industry.
- ACED 4000 Production Keyboarding** 3-0-3
Prerequisites: Grade of “C” or better in ACED 3000 . Development of high production standards in document processing. Completion of advanced office simulation modules using current word processing software as a basis for reaching acceptable office standards.
- ACED 4050 Office Management** 3-0-3
 Fundamentals of organizational behavior and management applied to the administration of the modern office. Topics include techniques of supervision, personnel problems, office productivity, ethics, and current legislation. Use of the case method in solving problems encountered in the office.
- ACED 4070 Office Applications** 3-0-3
Prerequisites: Grade of “C” or better in ACED 2000 or exemption. Focus on three major aspects of office administration—business calculations, machine transcriptions, and records management. Emphasis is the course is on solving business mathematics problems using the electronic calculator, keying a variety of business documents from machine transcription, and completing a records management simulation.
- ACED 4100 Advanced Computer Technology** 3-0-3
Prerequisite: ACED 3400 or consent of the instructor. Development of advanced skills in word processing, spreadsheets, databases, communications, and presentation software. Emphasis placed on customizing software applications to make the computerized workplace more productive.
- ACED 4160 Administrative Office Procedures** 3-0-3
Prerequisites: ACED 3000 and ACED 3400. Development of increased awareness of the role and scope of the administrative assistant position. This course will focus on basic and expanded job responsibilities, professionalism, and the performance of simulated office activities.

- ACED 4300 Practicum in Business/Vocational Education** 0-0-3
Prerequisite: Senior Standing and major in appropriate specialization; permission of the advisor must be obtained before registration.
- ACED 4310 Practicum in Business/Vocational Education** 0-0-3
Prerequisite: Senior Standing and major in appropriate specialization; permission of the advisor must be obtained before registration.
- ACED 4320 Practicum in Business/Vocational Education** 0-0-3
Prerequisite: Senior Standing and major in appropriate specialization; permission of the advisor must be obtained before registration.
- ACED 4400 Methods and Media for Teaching Accounting and Basic Business Subjects** 3-0-3
Prerequisites: ACCT 2101, BUSA 2106, ECON 1500. Methods, materials, and evaluative procedures for teaching effectively in accounting and in the basic business subjects. Field experiences required.
- ACED 4410 New Vocational Teacher Institute** 6-0-6
 Specifically designed for, and limited to, new secondary vocational teachers participating in a summer New Vocational Teacher Institute. Emphasis is on methods of teaching and vocational curriculum development.
- ACED 4420 Advanced New Vocational Teacher Institute** ~~3-0-3~~ to ~~6-0-6~~
 Follow-up course for participants in ACED 4410 or for experienced secondary vocational teachers. Emphasis is on foundations of vocational education and/or classroom management strategies.
- ACED 4500 Methods and Media for Teaching Business Skill Subjects** 3-0-3
Prerequisite: ACED 4400 with a grade of “C” or better. Methods, materials, and evaluative procedures for teaching effectively in keyboarding, information processing, office education, and cooperative business education. Field experiences required.
- ACED 4510 Curriculum Development in Vocational Education** 3-0-3
 Principles and procedures for analyzing, describing, and classifying occupations; selecting and sequencing program objectives, units, and tasks, and specifying instructional outcomes. Emphasis is placed on actual occupational analysis and breakdown of responsibilities.
- ACED 4550 Health and Safety in the Work Environment** 3-0-3
 Acquaints students with health and safety issues in technical occupations. Emphasis will be on safety regulations, agencies, codes, health issues, environmental concerns in industry, and ergonomic environmental factors in the workplace.
- ACED 4560 Safety and Liability in the Vocational Classroom** 3-0-3
 Investigation of safety in a classroom/laboratory setting, the need for appropriate safety programs, planning a safe environment, and addressing teacher and student liability issues. Emphasis is placed on planning programs that employ accident prevention methodology and foster liability awareness.
- ACED 4600 Directed Study in Business/Vocational Education** ~~1-0-1~~ to ~~3-0-3~~
Prerequisite: Consent of the department head. An opportunity for intensive individual study on an approved topic.
- ACED 4610 Individualizing Instruction in Vocational Education** 3-0-3
 Individualized techniques of instruction in vocational settings, pretesting instruments, preparation of materials, and evaluation of instruction.
- ACED 4670 Techniques of Student Evaluation in Vocational Education** 3-0-3
 Principles and methods of measurement and evaluation in vocational programs, emphasizing the administration, scoring, and interpretation of written and performance tests.

- ACED 4680 Instructional Materials Development in Technical, Trade and Industrial Education** 3-0-3
Principles and procedures for planning and developing both print-based and non-print instructional materials for use in the Technical, Trade and Industrial classroom and laboratory.
- ACED 4690 Methods of Instruction in Technical, Trade, and Industrial Education** 3-0-3
Methods of effective teaching in the Technical, Trade and Industrial classroom and laboratory. Emphasis is placed on the instructor's role in the classroom and the delivery of content.
- ACED 4780 Internship in Teaching Vocational Programs** 6 credits
Prerequisite: Completion of appropriate methods and curriculum classes. Graded "Satisfactory" or "Unsatisfactory." Six hours per semester for a maximum of two semesters.
- ACED 4790 Student Teaching in Business/Vocational Education** 0-0-10
Prerequisite: Completion of all coursework. Corequisite: ACED 4800.
- ACED 4800 Professional Practices Seminar** 2-0-2
Prerequisite: Completion of all coursework. Corequisite: ACED 4790. Reflection on educational practices and refinement of concepts emanating from student teaching experience.
- ACED 4810 Workplace Essentials** 3-0-3
Analysis of the workplace skills needed in a rapidly changing technological society. Emphasis on adaptability, creative thinking, group effectiveness, developmental skills, organizational development, and linking outcomes to job performance.
- ACED 4820 Project Management for Technical Professionals** 3-0-3
Provides an introduction to the process of project management. Focus is on building the students' understanding of the tools and strategies available to facilitate the management of multiple on-going projects within a technical environment. Topics include: planning systems, strategic and operational planning, mission and vision statements, performance objectives, time and course estimation, diagramming techniques, and performance monitoring through control systems.
- ACED 4900 Special Topics in Business/Vocational Education** 3-0-3
Prerequisite: Consent of the department head. An intensive study of a topic relevant to Business and Vocational Education.

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AFAM: AFRICAN AMERICAN STUDIES

- AFAM 2020 Race, Class, and Gender** 3-0-3
Also offered as WMST 2020. This 2000 level course is a core course, not an elective for the AFA minor. An exploration of social class, gender, and racial/ethnic relations as distinct, but linked dimensions of social inequality. Includes an examination of the historic underpinnings of discrimination by race, class, and gender and the present status of these issues.
- AFAM 3000 Introduction to African American Studies** 3-0-3
An introduction to key concepts, thematic concerns, and the theoretical and philosophical bases for African American Studies. To include perspectives and strategies for the analysis and understanding of the impact of African Americans on the socio-economic, cultural, political, and religious developments of America.
- AFAM 3090 Sub-Saharan Africa** 3-0-3
Also Offered as ANTH 3090. The study of Sub-Saharan Africa from an anthropological perspective, including beliefs, practices, and customs of African societies and how they affect the way people live. Examines the geography, climate, history, economics, and religious and social systems of the continent.
- AFAM 3220 Studies in African American Literature** 3-0-3
Also offered as ENGL 3220. Prerequisite: ENGL 2110, 2120, 2130, or 2140. A study of selected topics in African American literature. May be repeated, but only 3 hours may be counted toward distribution requirements for the AFAM minor.
- AFAM 3320 Studies in African Literature** 3-0-3
Also offered as ENGL 3320. Prerequisite: ENGL 2110, 2120, 2130, or 2140. A study of selected topics in African literature. May be repeated, but only 3 hours may be counted toward distribution requirements for the AFA minor.
- AFAM 4231 African American History to 1865** 3-0-3
Also offered as HIST 4231. The history of the African Americans from their origin in Africa to the end of slavery in the U.S., with emphasis on their economic life and social thought.
- AFAM 4232 African American History Since 1865** 3-0-3
Also offered as HIST 4232. The history of the African American struggle for equality after emancipation, with special focus on the problems of black leadership from Frederick Douglass to the Black Panthers.
- AFAM 4511 Precolonial Africa** 3-0-3
Also offered as HIST 4511. An analysis of the 8000-year-old cultures of the Nile Valley, including Egypt, Nubia, and Kush; West Africa and its contacts with the Middle East and Europe; the East African city-states and their contacts with India.
- AFAM 4512 Modern Africa** 3-0-3
Also offered as HIST 4512. Explores the European colonization of Africa and the African response. The course also examines the emergence of African nationalism and the problems of creating new states.
- AFAM 4700 African American Studies Seminar** 3-0-3
Prerequisite: AFAM 3000 and at least two AFAM 3000 level course electives. An interdisciplinary seminar on selected topics, providing a capstone experience.

ANTH: ANTHROPOLOGY

- ANTH 1102 Introduction to Anthropology** 3-0-3
An introduction to the origins, evolution, and present-day adaptations of the world's peoples. Emphasis on the study of fossils, archaeological remains, and culturally diverse life ways.
- ANTH 1102H Introduction to Anthropology, Honors** 3-0-3
Fundamentals of anthropology, with particular focus on such disciplinary subfields as physical anthropology, archaeology, and cultural anthropology. Emphasis is on the employment of the anthropological perspective, and the application of anthropological concepts and models to contemporary issues and problems.
- ANTH 3010 Physical Anthropology** 3-0-3
Prerequisites: ANTH 1102 or permission of instructor. The study of the biological origins of the human species. An emphasis is placed on human evolution, genetics, primatology, and the interaction between culture and biology.
- ANTH 3020 Culture and Personality** 3-0-3
Prerequisites: ANTH 1102 or permission of instructor. A cross-cultural survey of the relationship between culture and personality. Attention is directed to the interplay of cultural and social variables in the development of identity. Specific foci include mental illness, aggression, altered states of consciousness, and individual adaptation to social change.
- ANTH 3030 Archaeological Techniques** 2-2-3
Prerequisite: ANTH 1102 or permission of instructor. An introduction to the theory and techniques of archaeology as well as their practical application. Students will participate in fieldwork, including archaeological survey, excavation, and laboratory analysis.
- ANTH 3040 Cultural Anthropology** 3-0-3
Prerequisite: ANTH 1102 or permission of instructor. An introduction to the nature of cultural anthropology through a cross-cultural analysis of cultural systems and social organizations. Specific theoretical approaches are applied to case materials from cultural systems around the world including those within our society.
- ANTH 3070 Magic, Religion, and Witchcraft** 3-0-3
Prerequisite: ANTH 1102 or permission of instructor. A cross-cultural survey of varieties of religious expression. Emphasis is placed on ritual, mythic, and symbolic dimensions of religion and the way religion interrelates with other social institutions.
- ANTH 3090 Sub-Saharan Africa** 3-0-3
Also Offered as AFAM 3090. Prerequisite: ANTH 1102 or permission of instructor. The study of Sub-Saharan Africa from an anthropological perspective, including beliefs, practices, and customs of African societies and how they affect the way people live. Examines the geography, climate, history, economics, and religious and social systems of the continent.
- ANTH 3120 Archaeology of Eastern North America** 3-0-3
Prerequisites: ANTH 1102 or permission of instructor. A study of cultural development in eastern North America, employing archaeological, ethnohistorical, and historical perspectives. The temporal boundaries are the arrival of humans in the region until the nineteenth century. Native American and Euroamerican culture history will be explored.
- ANTH 3130 Indians of North America** 3-0-3
Prerequisites: ANTH 1102 or permission of instructor. A survey of the lifestyles of North American Indians following contact with Europeans. Groups from all regions of North America are included, and the course examines native lifestyles at particular points in time. Primary emphasis is on environmental adaptation and economy of each group; in addition, social and political organization, religion, material culture, arts, and other aspects of culture are discussed.

- ANTH 3160 Experimental Archaeology** 1-4-3
Prerequisite: ANTH 1102 or permission of the instructor. An introduction to primitive technology with an emphasis on recreating past tools and utensils in an attempt to understand past lifeways. Lab fee required.
- ANTH 3500 Anthropological Theory** 3-0-3
Prerequisites: SOCI 3000. An historical survey of the development of anthropological theory, with a primary focus on the anthropological perspective and including an introduction to general social science. Students will develop a competent review of literature in an area of anthropology.
- ANTH 3510 Anthropological Research** 3-0-3
Prerequisites: SOCI 3000. An introduction to the concepts and methods of anthropological research. The emphasis is on developing familiarity with the various research strategies employed by cultural anthropologists and their application. Course work culminates with the design of a research proposal.
- ANTH 3910 Anthropology of Law** 3-0-3
Prerequisite: ANTH 1102 or permission of instructor. The study of legal systems and conflict resolution styles in nonWestern societies. The varieties of legal understandings and procedures are explored, and characteristics of specific legal processes are related to other institutional spheres, such as economics, kinship, and religion.
- ANTH 4040 Sociocultural Change** 3-0-3
Prerequisite: ANTH 1102 or permission of instructor. An examination of sociocultural changes occurring in tribal and peasant societies in response to modernization. Particular attention is focussed on the articulation of these societies with the larger national and global systems, the resulting inequalities, types of social and cultural disruptions experienced, and the range of responses to change.
- ANTH 4540 Internship in Anthropology** 1-0-1 to 3-0-3
Prerequisites: Permission of advisor and Internship Coordinator. Must be taken concurrently with SOCI 4990 Senior Capstone. Graded “Satisfactory” or “Unsatisfactory.” Supervised, practical experience in an appropriate community agency; an opportunity for students of demonstrated maturity and judgment to discover the integration between theory and practice and make applications.
- ANTH 4900 Special Topics in Anthropology** 1-0-1 to 3-0-3
Prerequisites: ANTH 1102 or permission of instructor. Topics vary. Designed to provide an intensive study in a current topic relevant to anthropology. May be repeated for credit.
- ANTH 4980 Directed Study in Anthropology** 1-0-1 to 3-0-3
Prerequisites: ANTH 1102 or permission of instructor. Study in an area or subject not normally found in established courses offered by the department; may also allow the student to explore in more detail a topic which is normally covered by the department. May be repeated for credit.

ARED:ARTEDUCATION

- ARED 2010 Introduction to Crafts** 0-6-3
Prerequisite: ART 1030 - 3-D Design or permission of the Department Head. An introduction to basic crafts techniques and media including glass, enamel, paper, fiber, and textile.
- ARED 2020 Art For Teachers** 3-0-3
 The study of creative art education philosophies, goals, content, media, materials, and methods for children. Not open to art majors.

- ARED 3010 Elementary Art Methods, P-5** 1-4-3
 Prerequisites: Art Education major, junior standing, 3.0 GPA and acceptance into the Teacher Education Program. Methods, media, materials, management and preparation for teaching in grade levels P-5. Includes off-campus field experiences. Liability insurance required.
- ARED 3012 Secondary Art Methods, 6-12** 1-4-3
Prerequisite: ARED 3010 or permission of the department head. Teaching methods for the middle and high school art program. The focus is on developing knowledge of and skills with media, materials, processes, and disciplines appropriate for students in grades 6-12. Off-campus field experiences require liability insurance.
- ARED 3030K Creative Problem Solving and Visual Thinking Techniques** 0-6-3
 The study of creative behaviors. Theories of creativity, creative problems solving, blocks to creative behavior, and the relationship between creativity, cognition, and visual thinking are topics. Emphasis on strategies to enable creative behaviors. This is laboratory class and meets 6 hours per week.
- ARED 3040 Art Criticism and Aesthetic Inquiry** 2-0-2
Prerequisite: Art Education major or permission of the department head. The study of the theories and practices of art criticism and aesthetic inquiry associated with art and art education.
- ARED 3050 Curricular and Assessment Models for Art Education (P-12)** 3-0-3
Prerequisite: PSYC 3100. The study of curricular models and contemporary authentic assessment and evaluation approaches commonly associated with public school art education programs, P-12. Theoretical constructs and practical methods will be reviewed.
- ARED 4070 Seminar in Art Education (P-12)** 2-0-2
Prerequisite: Completion of all other academic course work. Must be taken in conjunction with ARED 4090. Graded “Satisfactory” or “Unsatisfactory.” Emphasis on professional expectations, instructional and curricular issues, and problems found in the school environment.
- ARED 4080 Internship in Art Education** 0-0-6
Prerequisite: Permission of the Department Head. Graded “Satisfactory” or “Unsatisfactory.” A supervised teaching experience for degreed students seeking certification. Must be taken for two consecutive semesters, for a total of 12 semester credit hours.
- ARED 4090 Student Teaching in Art Education** 0-30-10
Prerequisite: Completion of the professional education sequence. Graded “Satisfactory” or “Unsatisfactory.” The culminating professional experience scheduled during the final semester of University enrollment. The student is provided with a supervised teaching experience in any one of three settings, elementary school, middle school, or senior high school.

ARID: INTERIOR DESIGN

- ARID 2111 Interior Design Studio I** 0-6-3
Prerequisite: ART 1030, ART 1011 and ARTH 1120 or permission of Department Head. Corequisite: must be taken concurrently with ARID 2310. Explorations of spaces of smaller scale and clearly delineated functions and needs. Emphasis on design process methodology and communications of findings and solutions. Graphics emphasize freehand sketching, color, and black and white media. Field trips and site visits are required.

- ARID 2112 Interior Design Studio II** 0-6-3
Prerequisite: ARID 2111. This course extends the studies begun in Studio I into spaces of limited scale but involves more complex considerations of function, aesthetics, needs, and user satisfaction. Continued emphasis on communication of ideas and solutions through varied graphic formats and words. Includes freehand sketching, technical drawing, etc. Site visits and field trips required.
- ARID 2310 Interior Design Graphics and Presentation** 1-2-2
Prerequisite: ART1030, ART 1011. **Corequisite:** ARID 2111 **must be taken concurrently.** Exploration of graphic, written and verbal presentation techniques. Application of principles of layout and composition. Experimentation with media and materials. Emphasis on developing skill in freehand sketching.
- ARID 3111 Interior Design Studio III** 0-6-3
Prerequisite: ARID 2112 and **portfolio review.** Introduces topics and spaces of increasing scale and complexity in terms of function, aesthetics, needs and user satisfaction. Emphasis on communication of ideas through varied graphic formats: freehand sketches, technical drawings, computer applications, etc. Includes application of building codes, principles of universal design, and use of materials from sustainable sources. A variety of non-residential spaces are explored through projects. Residential spaces limited to institutional and hospitality applications.
- ARID 3112 Interior Design Studio IV** 0-6-3
Prerequisite: ARID 3111. Consideration of larger scale spaces with diverse and complex issues to resolve. Production of working drawings, documentation of design thinking from concept development through final presentation of solution(s). Emphasis on refining design thinking and communication skills. Site visits and fieldtrips required.
- ARID 3211 History of Interiors I** 3-0-3
Prerequisite: ARTH 1120. Introduction to the aesthetic, technical, functional and social issues inherent in the design and use of interiors of selected times and places. A variety of cultures and contexts are examined and compared. Examples of the built environment are presented in detail: site, structure, materials, furnishings, and distinguishing features. Illustrated lectures and collaborative learning. Research, papers, and site visits required. Emphasis on writing and application of design terminology.
- ARID 3212 History of Interiors II** 3-0-3
Prerequisite: ARID 3211. Varied historical times, topics, and locations. Exploration of the role of the interior designer and the design profession in the shaping and use of the built environment. Emphasis on contemporary issues. Research and site visits required. Emphasis on writing.
- ARID 3320 Materials for Interior Design** 0-4-2
Prerequisite: ARED 2112, ARID 2310. Introduction and exploration of the materials and methods used in the fabrication of interior furnishing and spaces. Applications of varied materials and creation of a source notebook/reference. Research and site visits required.
- ARID 3340 Furniture Design** 0-6-3
Prerequisite: ARID 2112, ARID 2310, **successful completion of the shop safety exam.** Introduction to the materials and methods used in the design and fabrication of furnishings. Explores performance, aesthetics, and cost factors, etc. Complete design(s) including initial drawings, working drawings, finished piece at model and/or full scale. Work to be completed under the supervision of shop supervisor/designated personnel only. Charge for materials.
- ARID 3350 Lighting & Building Systems** 0-6-3
Prerequisite: ARID 2112. Introduction to aesthetic and technical considerations of lighting and other building systems required for the comfortable use of interior spaces. Addresses plumbing, HVAC, solar, varied new products and systems from domestic and international sources. Case studies, computations, site visits, and research required.

- ARID 3411 Computers for Interior Design** 0-6-3
Prerequisite: ART 2030. Introduction to computer aided design and drafting (CADD), Varied software and applications for 3D visualization and design communication. Emphasis on gaining skills in the use of the computer as a tool in creating and communicating design solutions. Work may be linked to design studio projects.
- ARID 4000 Special Topics** 0-4-2 to 0-6-3
 Relevant topics not included in the official interior design curriculum. Format may vary.
- ARID 4010 Interior Design Internship** 0-0-3
Prerequisite: Junior Standing in Interior Design and ARID 3112. Taken during summer between junior and senior years. Learning through working in the profession. Placement determined through collaborative efforts of student, internship supervisor, and field supervisor. Interviews may be required. Assessment reviews completed by student, internship supervisor, and field supervisor. Requires preparation and meetings prior to and following the internship experience. Written documentation through journal and reports.
- ARID 4111 Interior Design Studio V** 0-6-3
Prerequisite: ARID 4010. Large scale spaces with complex issues to decipher and incorporate into the design process and solutions. Emphasis on refinement of application of design process including creative and critical thinking, research skills, and graphic, written and verbal presentation skills. Team project(s) required. Design and documentation of custom furnishings/casework required. Site visits and field trips required.
- ARID 4112 Interior Design Studio VI** 0-6-3
Prerequisite: ARID 4111. Culmination of studio work. Largest spaces with intricate criteria to explore, document; incorporate into the design process and to communicate through varied media and methods. In depth exploration of selected topic included. Collaborative work, site visits, and field trips required.
- ARID 4210 Historic Interiors/Contemporary Uses** 2-0-2
Prerequisite: ARTH 3122. Introduction to restoration, preservation and adaptive use of interior spaces and structures. Understanding of local, state, federal and international programs, policies, and organizations involved in studying and sustaining the built environment. Explores issues, ethics and economics of selected examples. Case studies, research, and site visits required.
- ARID 4510 Interior Design Portfolio** 1-2-2
Prerequisite: ARID 4111. Coursework includes the development of a package of work which best conveys the range of knowledge and skills attained by the individual student. Includes resume design and production.
- ARID 4610 Professional Practice** 2-0-2
Prerequisite: ARID 3112. Introduction to the profession of interior design: organizations, registration requirements, qualification criteria and testing, ethics, business practices, paperwork, legal issues, etc. Site visits required.
- ARID 4620 Interior Design Seminar** 1-2-2
Prerequisite: ARID 4111. Explores topics and issues related to the profession of interior design. Discussion, research, written and verbal presentations required. Emphasis on collaborative learning.

ART: ART STUDIO AND ART APPRECIATION

- ART 1010 Drawing I** 0-6-3
An introductory drawing course in which the concepts of composition, figure/ground, line, value, contour, gesture, linear and aerial perspective are studied using a variety of drawing techniques and media.
- ART 1011 Drawing II** 0-6-3
Prerequisite: ART 1010 A continuation of Drawing I. Further development of drawing techniques and methods for a personal and experimental approach. Abstract imagery, non-representational, and representational imagery will be explored.
- ART 1020 Two Dimensional Design** 0-6-3
A two-dimensional foundation design course in which the formal elements of art, principles of design, and color theory are introduced.
- ART 1030 3-Dimensional Design** 0-6-3
A three-dimensional foundation design course in which the formal elements of design are introduced along with the methods and safety procedures associated with the use of power equipment. All students must pass examination on power tool usage and safety before access to power tools and shop.
- ART 1100 Introduction To The Visual Arts** 3-0-3
An introductory survey of world art from prehistory to the contemporary period. Credit for this course may not be used to satisfy requirements for area F or senior curriculum requirements for ART or ARED majors.
- ART 1100H Honors Introduction To The Visual Arts** 3-0-3
An introductory survey of world art, at the Honors level, from prehistoric to the contemporary period, set in the context of historical, political, economic, and social events.
- ART 2030 Computers In Art** 0-6-3
Prerequisite: ART 1020 An introductory course to develop basic skills in computer applications for the visual arts including: design, page layout, word processing, illustration, web access, web design, historical and critical methods, and information management.
- ART 3023 Drawing III** 0-6-3
Prerequisite: ART 1011. Interpreting the human figure through the use of a variety of media and techniques. May be repeated for up to 9 hours of credit.
- ART 3041 Painting I** 0-6-3
Prerequisites: ART 1011 and ART 1020 or permission of the Department Head. An introduction to oil and acrylic painting techniques.
- ART 3051 Printmaking I** 0-6-3
Prerequisite: ART 1020 and ART 1020. An introduction to basic printmaking processes and techniques, including historical background and significance.
- ART 3061 Ceramics I** 0-6-3
Prerequisite: ART 1030 or permission of the Department Head. A beginning level course including coil and slab construction, wheel throwing techniques, glazing processes, and kiln firing methods.
- ART 3071 Photography I** 0-6-3
An introductory course with emphasis on the technical and aesthetic foundations of black and white photography including camera functions, darkroom processing procedures, and presentation of work. A 35mm camera with manual controls is required.
- ART 3081 Sculpture I** 0-6-3
Prerequisite: ART 1030 or permission of Department Head. An introduction to additive, subtractive, replacement, and modeling sculpture techniques and methods. Attention will be given to three dimensional studies of human anatomy.

- ART 3091 Graphic Design I** 0-6-3
Prerequisite: ARTH 1020 and ART 2030. Introduction to aesthetic and technical problem solving. Emphasis is placed on contemporary commercial art production techniques.
- ART 3092 Graphic Design II** 0-6-3
Prerequisite: ART 3091. A continuation of Graphic Design I with emphasis on typography, package design, and preparation of portfolio comprehensives. May be repeated for up to 9 hours of credit.
- ART 3101 Jewelmaking I** 0-6-3
Prerequisites: ART 1030. Introduction to the design and production of jewelry and small metals, emphasis is placed on techniques employing casting and fabrication processes. Students must pass a safety test on the use of equipment and materials.
- ART 3111 Watercolor I** 0-6-3
Prerequisite: ART 1010 and ART 1020. The introduction to the technical aspects of aqueous media painting featuring transparent and opaque approaches.
- ART 4024 Drawing IV** 0-6-3
Prerequisite: ART 3023 or permission of the Department Head. An advanced course in drawing with emphasis on personal stylistic development. May be repeated for credit.
- ART 4042 Painting II** 0-6-3
Prerequisite: ART 3041. An advanced course in painting using a variety of media and techniques. The emphasis is on the development of personal style. May be repeated for up to 9 hours of credit.
- ART 4052 Printmaking II** 0-6-3
Prerequisite: ART 3051. An advanced course which gives the student an opportunity for further expressive development and experimentation with a variety of printmaking processes. May be repeated for up to 9 hours of credit.
- ART 4062 Ceramics II** 0-6-3
Prerequisites: ART 3061 or permission of the Department Head. An advanced course including sculptural construction methods and functional approaches. May be repeated for up to 9 hours of credit.
- ART 4072 Photography II** 0-6-3
Prerequisite: ART 3071. An advanced course in black and white photography with emphasis on image manipulation and experimental processes. A 35mm camera with manual controls is required. May be repeated for up to 9 hours of credit.
- ART 4082 Sculpture II** 0-6-3
Prerequisite: ART 3081 or permission of Department Head. Intermediate work in additive, subtractive, replacement, and modeling sculpture techniques and methods. May be repeated for up to 9 hours of credit.
- ART 4093 Graphic Design III** 0-6-3
Prerequisite: ART 3091. An advanced course in graphic design with emphasis on illustration and preparation of portfolio comprehensives. May be repeated for up to 9 hours of credit.
- ART 4094 Graphic Design IV** 0-6-3
Prerequisite: ART 3092 or ART 4093. An advanced computer graphics course. The student will concentrate on web page design and three-dimensional modeling. May be repeated for up to 9 hours of credit.
- ART 4095 Graphic Design V** 0-6-3
Prerequisite: ART 4094 or permission of Department Head. An advanced computer graphics course which concentrates on the creation of computer animation. May be repeated for credit.
- ART 4102 Jewelmaking II** 0-6-3
Prerequisite: ART 3101. Advanced techniques and further exploration of jewelry and small metals design. May be repeated for up to 9 hours of credit.

- ART 4112 Watercolor II** 0-6-3
Prerequisite: ART 3111 or permission of the Department Head. Advanced aqueous media techniques and methods for the development of a personal expressive and/or communicative style. May be repeated for up to 9 hours of credit.
- ART 4140 Technical Problems in Art** 0-2-1 to 0-6-3
Prerequisite: Junior or senior level standing in art. Designed for the advanced student capable of independent study for the purpose of solving studio problems and conducting creative research. Purchase of materials may be required. May be repeated for up to 9 hours of credit.
- ART 4150 Directed Study in Art** 0-2-1 to 0-6-3
Prerequisite: Approval of the supervising faculty member and Department Head. Students are provided the opportunity to explore individual problems in art. Purchase of art materials may be required. May be repeated for up to 9 hours of credit.
- ART 4160 Internship in Art** 0-6-3
Prerequisite: Art Major and permission of the department head. Supervised work experience through cooperatively planned practical job related to the student's degree. May be repeated for credit.
- ART 4170 Professional Preparation** 3-0-3
Prerequisite: ART 2030 and senior status. A capstone course for the production of a professional quality portfolio, preparation of works for exhibition, learning gallery procedures, planning for and participation in the senior exhibition.
- ART 4180 Workshop in Art** 0-2-1 to 0-6-3
 Selected topics presented in an intensive workshop setting. Purchase of art materials may be required. May be repeated for up to 9 hours of credit.

ARTH: ART HISTORY

- ARTH 1120 Fundamental Concepts in the Visual Arts** 3-0-3
Restricted to ART and ARE majors and art minor only. Survey of the major artistic achievements of world art from prehistory to the present. Discussion of the visual language of art and methods, techniques, approaches, and disciplines.
- ARTH 3120 Special Topics in Art History** 3-0-3
Prerequisite: ART 1100 or ARTH 1120. The study of unique or special content in the visual arts. May be repeated under different topics for a maximum of 9 hours.
- ARTH 3121 Survey of Art History I** 3-0-3
Prerequisite: ART 1100 or ARTH 1120. A survey of world art from prehistory through the medieval period
- ARTH 3122 Survey of Art History II** 3-0-3
Prerequisite: ART 1100 or ARTH 1120. A survey of world art from the proto-Renaissance through the modern period.
- ARTH 3123 Special Topics in Art History** 3-0-3
Prerequisite: ART 1100 or ARTH 1120. The study of unique or special content in the visual arts. May be repeated under different topics for a maximum of 9 hours.
- ARTH 4120 Issues in Art Criticism** 3-0-3
Prerequisite: ART 1100 or ARTH 1120. Selected issues from the discipline of art criticism.
- ARTH 4130 Women Artists** 3-0-3
Prerequisite: ART 1100 or ARTH 1120. The study of art created by women artists in western and non-western cultures.

- ARTH 4140 African American Art** 3-0-3
Prerequisite: ART 1100 or ARTH 1120. The study of the arts created by African American artists from the late 18th century up to the present.
- ARTH 4150 Contemporary Art History** 3-0-3
Prerequisite: ART 1100 or ARTH 1120. The study of contemporary art movements in the 20th century to the present day.

AS: AEROSPACE STUDIES

- AS 1000 Leadership Laboratory** 0-1.5-0
 The AS 1000 Leadership Laboratory (LLAB) for 1000- and 2000-level students' courses includes a study of Air Force customs and courtesies, drill ceremonies, military commands, and Air Force opportunities. LLAB for 3000- and 4000-level students provides advanced leadership experiences that involve planning, organizing, and executing cadet training activities, as well as preparing and presenting briefings and other oral and written communications.
- AS 1001 Foundations of the U.S. Air Force I** 1-0-1
Co-requisite: AS 1000. A survey course designed to introduce students to the United States Air Force and Air Force Reserve Officer Training Corps.
- AS 1002 Foundations of the U.S. Air Force II** 1-0-1
Co-requisite: AS 1000. A survey course designed to continue the student's introduction to the United States Air Force and Air Force Reserve Officer Training Corps.
- AS 2001 The Evolution of the U.S. Air and Space Power Force I** 1-0-1
Co-requisite: AS 1000. Examines general aspects of the air and space power from a historical perspective. The course covers a time period from the first balloons and dirigibles to the Korean War.
- AS 2002 The Evolution of the U.S. Air and Space Power Force II** 1-0-1
Co-requisite: AS 1000. Examines general aspects of the air and space power from a historical perspective. The course covers a time period from the Vietnam War to the global positioning systems of the Persian Gulf War.
- AS 3001 Leadership Studies I** 3-0-3
Co-requisite: AS 1000. A study of leadership, management fundamentals, professional knowledge, Air Force personnel and evaluations systems, leadership ethics, and communication skills required of an Air Force junior officer.
- AS 3002 Leadership Studies II** 3-0-3
Co-requisite: AS 1000. Continues the study of leadership, management fundamentals, professional knowledge, Air Force personnel and evaluations systems, leadership ethics, and communication skills required of an Air Force junior officer.
- AS 4001 National Security** 3-0-3
Co-requisite: AS 1000. Examines the national security process, regional studies, advanced leadership ethics, and Air Force doctrine.
- AS 4002 Preparation for Active Duty** 3-0-3
Co-requisite: AS 1000. The final step in preparing an officer candidate for active duty. This course examines the military as a profession, officership, military justice, and civilian control of the military.

ASTRONOMY

- ASTR 1000 Introduction to the Universe** 3-0-3
Students may not receive academic credit for ASTR 1000 if they receive academic credit for ASTR 1010K or ASTR 1020K. A survey of the universe, examining the historical origins of astronomy; the motions and physical properties of the Sun, Moon, and planets; the formation, evolution, and death of stars; and the structure of galaxies and the expansion of the Universe.
- ASTR 1010K Astronomy of the Solar System** 3-2.5-4
Astronomy from early ideas of the cosmos to modern observational techniques. The solar system planets, satellites, and minor bodies. The origin and evolution of the solar system. Three lectures and one night laboratory session per week.
- ASTR 1020K Stellar and Galactic Astronomy** 3-2.5-4
The study of the Sun and stars, their physical properties and evolution, interstellar matter, star clusters, our Galaxy and other galaxies, the origin and evolution of the Universe. Three lectures and one night laboratory session per week.
- ASTR 2010 Tools of Astronomy** 0-2-1
An introduction to observational techniques for the beginning astronomy major. Completion of this course will enable the student to use the campus observatory without direct supervision. The student will be given instruction in the use of the observatory and its associated equipment. Includes laboratory safety, research methods, exploration of resources (library and Internet), and an outline of the discipline.
- ASTR 2020 The Planetarium** 0-2-1
Prerequisites: ASTR 1000, ASTR 1010K, ASTR 1020K, or permission of instructor. Instruction in the operation of the campus planetarium and delivery of planetarium programs. Completion of this course will qualify the student to prepare and give planetarium programs to visiting groups.
- ASTR 3101-3102 Principles of Astronomy I, II** 3-2.5-4 each
Corequisite for ASTR 3101: PHYS 2211K. Prerequisites for ASTR 3102: ASTR 3101 and PHYS 2211K, each with a grade of “C” or better. A calculus-based course covering astronomical observations, analysis of celestial motions, and a study of the solar system in ARTR 3101, and covering the physics of the Sun and stars, stellar evolution, galactic structure and the universe in ASTR 3102.
- ASTR 3220 Cosmology** 3-0-3
Prerequisite: ASTR 1020 and PHIL 2010 or consent of the instructor. Also offered as PHIL 3220. A scientific and philosophical study of our perception of the universe, including the world views of Ptolemy, Copernicus, and Einstein.
- ASTR 4100 Observational Techniques** 2-2-3
Prerequisite: ASTR 3101. Aspects of instrumental and observational astronomy including the optics of the telescope, spectroscopy, photography, photometry, electronics, CCDs, astrometrical problems, the operation of the observatory, and mathematical methods of data reduction.
- ASTR 4400 Physics of the Solar System** 3-0-3
Prerequisite: ASTR 3101. Celestial mechanics; physical features of the Sun, planets, moons, and other material in the solar system.
- ASTR 4410 Astrophysics** 3-0-3
Prerequisite: ASTR 3101. **Pre- or corequisite:** PHYS 4411. Radiative transfer in the stellar atmosphere, the interior structure of stars, stellar evolution, physical processes in gaseous nebulae and cosmology.

- ASTR 4800 Internship in Astronomy** 0-6-3 to 0-12-6
Active participation in research in astronomy, or in some field of science closely allied with astronomy, or work with a planetarium or museum which involves planetarium operations and programs. A daily log of activities, a report on the work done, and a research paper relating the work done to the field of astronomy are required.
- ASTR 4900 Special Topics in Astronomy** 1-0-1 to 4-4-6
Prerequisite: ASTR 3101, consent of advisor and instructor. Topics to be assigned by instructor; may be taken more than once if topics are different; up to a total of 6 credit hours.
- ASTR 4950 Directed Study in Astronomy** 1-0-1 to 4-4-6
Prerequisites: ASTR 3101, consent of advisor, instructor, and department head. Study in area or subject not normally found in established courses offered by the department; may also allow students to explore in more detail and/or depth an area or subject covered by the department in astronomy; up to a maximum of 6 credit hours.

BIOLOGY

- BIOL 1010 Introduction to Biology: The Evolution and Diversity of Life** 3-0-3
Co-requisite: BIOL 1020L. An introduction to the diversity of life on Earth with a special emphasis on ecological and evolutionary processes and relationships.
- BIOL 1020L Biodiversity Lab** 0-2-1
Co-requisite: BIOL 1010. A laboratory course to accompany Biology 1010 emphasizing the diversity of life.
- BIOL 1030 Introduction to Biology: Organismal Biology** 3-0-3
Co-requisite: BIOL 1040L. An introduction to modern biology for the non-major with special emphasis on the processes involved in the development and maintenance of complex multicellular organisms.
- BIOL 1040L Organismal Biology Lab** 0-2-1
Co-requisite: BIOL 1030. A laboratory course to accompany Biology 1030 emphasizing the structure of multicellular organisms.
- BIOL 1050 Human Biology** 3-0-3
An introduction to the processes underlying the interactions of humans and the natural world. The topics to be covered include: physiological processes and their relationship to diseases; human genetics and biotechnology; the evolutionary basis of human structure and behavior, and the impact of humans on natural communities.
- BIOL 1060 Introduction to Marine Biology** 3-0-3
A non-technical study of marine and estuarine habitats emphasizing habitat types and biological community diversity. Topics of study will include, but are not limited to: organismal adaptations to a marine environment, bio-diversity and taxonomy of major groups of marine organisms, ecosystem types and characteristics and oceanic scale processes. Some voluntary overnight, weekend field trips with emphasis on collecting coastal fauna and study of Georgia coastal habitats.
- BIOL 1070 Microbes and Humans** 3-0-3
The study of microbes and humans with an emphasis upon infectious diseases and the role of microbes in food production, bioengineering, and industrial processes.
- BIOL 1080 Conservation Biology** 3-0-3
Basic biology underlying current issues in the conservation of rare species, native ecosystems, and biological diversity in general. Exploration of the nature and geographic distribution of biodiversity and threats to it, discussed in the context of ecological and population-genetic principles as well as socio-economic and political realities. Theory and case studies of

different modes of preserving biodiversity (zoos and gardens vs. natural preserves) will be presented. The U.S. Endangered Species Act and Wilderness Preservation Act and C.I.T.E.S., among others, will be critically evaluated as models for government involvement in conservation. Prescriptions for sustainable development that does not further erode biodiversity will be discussed in light of current knowledge of genetics, population dynamics, and community and landscape ecology.

BIOL 1090 Genetics and Human Affairs 3-0-3

Genetics and its human implications, past, present and future. A review of the basic patterns of inheritance using human traits. Emphasis will be given to calculation of recurrence risks by pedigree analysis, the human chromosome aberrations, the molecular aspects of inborn errors of metabolism, the human genome project, recombinant DNA technology and its application to gene therapy. Extensive use of computer technology and auto-tutorials will be made in the course.

BIOL 1951H Honors Biology: Cellular Processes 3-2-4

An introduction to the fundamental principles of cell and molecular biology. Prokaryotic and eukaryotic development will focus on the relationship of structure and function. Cellular solutions to fundamental problems such as cell recognition, energy acquisition and conversion, genetic transmission, and cellular reproduction will be discussed. Taught in an enriched, discussion, and project-oriented classroom environment.

BIOL 1952H Honors Biology: The Evolution and Diversity of Life 3-2-4

Introduction to modern biology with an emphasis on the diversity of life on Earth and a close examination of ecological and evolutionary processes and relationships. Taught in an enriched, discussion and project-oriented classroom environment.

BIOL 2010 Introductory Biology for Majors 3-3-4

Introduction to biology for biology majors. Emphasis on basic concepts providing a foundation for advanced courses in biology. Concepts covered include the scientific method and experimental design, cellular structure and function, metabolism, reproduction, the nature of the gene and its action, and the mechanisms of evolution.

BIOL 2230 General Botany 3-3-4

Prerequisite: BIOL 1010/1020L and 1030/1040L, or BIOL 2010, or the consent of the instructor. Survey of the plant kingdom with greatest emphasis on structure and function of angiosperms.

BIOL 2270 General Zoology 3-3-4

Prerequisite: BIOL 1010/1020L and 1030/1040L, or BIOL 2010, or the consent of the instructor. Survey of the animal kingdom.

BIOL 2651 Human Anatomy and Physiology I 3-2-4

Introduction to human anatomy and general physiological principles with emphasis on the following: cell and tissue organization, plus skeletal, muscular, nervous, and endocrine systems.

BIOL 2652 Human Anatomy and Physiology II 3-2-4

Prerequisite: BIOL 2651. A continuation of human anatomy and general physiological principles with emphasis on the following: cardiovascular, lymphatic, respiratory, digestive, excretory, and reproductive systems, plus development.

BIOL 2900 Microbiology in Health and Disease 3-3-4

Prerequisite: CHEM 1152K. An introductory microbiology course with emphasis upon the role played by microorganisms in health and disease. Open to students who plan to enter the health or allied health fields without a major in biology. Two 1.5 hour laboratory periods per week.

- BIOL 3000 Biostatistics** 2-4-4
Prerequisite: MATH 1113, BIOL 2230 and BIOL 2270. An introduction to univariate and multivariate analysis of data. Laboratory work will allow students to collect data typical of the diverse disciplines in biology and subject those data to appropriate biometrical analyses, using a calculator or computer. Students will be required to keep a detailed lab notebook of the statistical methods studied and also complete a term project and a scientific report. Two 2-hour laboratory periods per week.
- BIOL 3100 Microbiology** 3-3-4
Prerequisite: BIOL 2010 and CHEM 1212K. **Recommended:** CHEM 3402. Survey of microbiology covering eubacteria, archaebacteria, protozoa, fungi, algae, and viruses. Includes fundamental techniques, microbial physiology and genetics, biotechnology, medical applications, and applied microbiology. Two 1.5 hour laboratory periods per week.
- BIOL 3200 Genetics** 3-3-4
Prerequisite: MATH 1113, BIOL 2230, BIOL 2270. A survey of modern genetics including: Mendelian and molecular genetics, as well as selected topics in population and quantitative genetics and genetic engineering. Laboratory will emphasize genetic analysis using live *Drosophila* and computer simulated crosses, chi-square analysis of progeny data, and application of these principles to laboratory analysis of genetic variation at the DNA level.
- BIOL 3300 Ecology** 3-3-4
Prerequisite: BIOL 2230, BIOL 2270, CHEM 1212K with a grade of "C" or better. **Corequisite:** BIOL 3200 or consent of instructor. Basic ecological principles including behavior of individuals, populations, and communities in the context of their physical and biotic environments. Reviews population genetics and basic evolution; emphasizes scientific method, including the role of theory, hypothesis testing, statistical analysis and scientific writing. Observation and data collection mostly in the field within a variety of local ecosystems. One weekend field trip required.
- BIOL 3400 Plant Physiology** 3-3-4
Prerequisite: BIOL 2230, CHEM 1211K. An introduction to basic principles of plant function including physical processes occurring in plants, water relations in whole plants and plant tissues, cell physiology and biochemistry, and growth and development.
- BIOL 3450 Vertebrate Physiology** 3-3-4
Prerequisite: BIOL 2270, CHEM 1212K or permission of instructor. Study of general physiological processes of vertebrates; emphasis at organ and organ system levels.
- BIOL 3500 Mycology** 3-3-4
Prerequisite: BIOL 2230, **Recommended:** BIOL 3100. Biology of fungi with emphasis on morphology, taxonomy, physiology, and ecology, includes the roles of fungi as both beneficial organisms and as causal agents in plant and animal diseases.
- BIOL 3550 Phycology** 3-4-4
Prerequisite: BIOL 2230. An introduction to the study of the algae, including taxonomy, phylogeny, physiology, and ecology. Laboratories will focus on the examination of live material, and will include methods for the isolation and culture of algae.

Credit notations on the far right are in the pattern 3-0-3. The first number is the number of lecture hours (or equivalent) each week; the second number is the number of laboratory hours (or equivalent) each week; the third number, **in bold**, is the number of semester hours credit.

- BIOL 3600 Local Flora** 3-3-4
Prerequisite: BIOL 2230. A field-oriented study emphasizing identification, distribution, and ecology of locally occurring seed-bearing plants. Two or three weekend field trips are routinely scheduled.
- BIOL 3650 Taxonomy of Seed Plants** 3-3-4
Prerequisite: BIOL 2230. A survey of the principles of plant taxonomy that includes identification, nomenclature, evolution, and classification of seed-bearing plants. A systematic survey of plant families will be used with emphasis on local representatives.
- BIOL 3800 Invertebrate Zoology** 3-3-4
Prerequisite: BIOL 2270. A study of the morphology, phylogeny, and ecology of invertebrates.
- BIOL 3840 Entomology** 3-3-4
Prerequisite: BIOL 2270. Introduction to the study of insect biology including ecology, behavior, and taxonomy. Laboratory includes field observation, sampling and identification of local fauna.
- BIOL 3870 Parasitology** 3-3-4
Prerequisite: BIOL 2270. A study of the morphology, life cycles, and host-parasite relationships of representative protozoan and metazoan parasites. Human parasites are emphasized.
- BIOL 3900 Ichthyology** 3-3-4
Prerequisite: BIOL 2270. A study of the taxonomy, distribution, ecology, behavior and evolution of freshwater and marine fishes. One or two overnight field trips on weekends will be scheduled, with emphasis placed on the collection and preservation of specimens and the identification of habitats occupied by various species. Other field trips scheduled during normal laboratory periods.
- BIOL 3920 Herpetology** 3-3-4
Prerequisite: BIOL 2270. Introduction to the study of amphibians and reptiles, including anatomy, physiology, ecology, behavior, and classification coordinated with field study of local species.
- BIOL 3950 Ornithology** 3-3-4
Prerequisite: BIOL 2270. Lectures on morphology, evolution, ecology, behavior, and distribution of birds of the world. Lab emphasizes gross anatomy and identification of local species by sight and sound; mostly in the field. Five-day field trip to south Florida required; other Saturday trips offered.
- BIOL 3980 Mammalogy** 3-3-4
Prerequisite: BIOL 2270. Lectures emphasize morphology, evolution, ecology, zoogeography and classification of mammals of the world. Lab emphasizes gross anatomy and identification of mammal specimens, especially those found in North America. Four-day field trip to Blue Ridge Mountains (NC) required; Manatee dive (FL) offered.
- BIOL 4000 Topics in Biology I** 3-0-3
Prerequisite: BIOL 2230, BIOL 2270 or equivalent. Selected topics in the biological sciences. May be repeated if the topic is different. This course does not include a laboratory.
- BIOL 4010 Topics in Biology II** 3-3-4
Prerequisite: BIOL 2230, BIOL 2270 or equivalent. Selected topics in the biological sciences. May be repeated if the topic is different. This course includes a laboratory.
- BIOL 4100 Morphology of Land Plants** 3-3-4
Prerequisite: BIOL 2230. Study of vegetative organization and reproductive cycles of bryophytes, pteridophytes and seed plants, which incorporates phylogenetic and ecological relationships.

- BIOL 4200 Plant Anatomy** 3-3-4
Prerequisite: BIOL 2230. Origin and development of tissues and organs of vascular plants. The laboratory stresses microtechnique including preparation of plant tissues in paraffin and plastic resins, sectioning, staining for specific components of plant tissues, and use of different optical methods.
- BIOL 4300 Comparative Vertebrate Anatomy** 3-3-4
Prerequisite: BIOL 2270 or approval of instructor. Anatomical and phylogenetic survey of representative vertebrate animals.
- BIOL 4350 Vertebrate Embryology** 3-3-4
Prerequisite: BIOL 2270. A study of the fertilization process and embryology of selected vertebrates with the greatest emphasis placed on chick development.
- BIOL 4400 Vertebrate Histology** 3-4-4
Prerequisite: 8 semester hours of senior college biology courses. Study of vertebrate histology with emphasis on the four primary tissues (epithelium, connective, muscle, and nerve). Laboratory work consists primarily of detailed microscopic study and drawings of tissues from prepared slides. Two 2-hour laboratory periods per week.
- BIOL 4500 Cell Biology** 3-3-4
Prerequisite: CHEM 3601L. The organization and function of cellular structures in animal, plant, and microbial systems. Emphasis on the molecular basis of metabolism, transport, mobility, nerve conduction, and the cell cycle.
- BIOL 4510 Virology** 3-0-3
Prerequisites: BIOL 3100 or consent of instructor. An introduction to viruses and other non-cellular infectious agents. Topics include the structure and composition of these agents, their replication, effects on their host, and host responses. Methods for studying these agents, their origins and evolution, and their uses in biotechnology will also be discussed.
- BIOL 4550 Immunology** 3-3-4
Prerequisite: BIOL 3100. Basic concepts of immunology, including antigen and antibody structure, the generation of diversity, the nature of T cell and B cell receptors, cellular cooperation, and the down regulation of immune responses.
- BIOL 4580 Molecular Genetics** 3-3-4
Prerequisite: BIOL 3200. The study of the molecular nature of eukaryotic genomes, with emphasis on biotechnology. The lecture will focus on using modern molecular genetic techniques as a means to understanding complex eukaryotic genomes. Emphasis will be placed on reading current, relevant scientific literature. The laboratory will involve hands-on experience in which the student will learn the latest technology of molecular genetic analysis and manipulation.
- BIOL 4600 Evolution** 3-0-3
Prerequisite: BIOL 3200. Study of the theoretical aspects and the patterns and processes of micro- and macro-evolutionary change.
- BIOL 4650 Animal Behavior** 3-3-4
Prerequisite: BIOL 2270. Introduction to the major concepts of causation, development, evolution, and ecology of animal behavior, emphasizing the behavior of social animals.
- BIOL 4700 Limnology** 3-3-4
Prerequisite: BIOL 3300. A study of the physical, chemical, and biological aspects of fresh waters.
- BIOL 4830 Laboratory Practicum I** 0-3-1
Prerequisite: 12 hours of upper division biology and a GPA of 3.0. Graded “Satisfactory” or “Unsatisfactory.” Individualized instruction and practice in assisting with the operation of biology laboratory exercises in classes that have one laboratory period per week. The student is assigned to one class section for one semester and is expected to assist with all class laboratories. The practicum is directed by the instructor of the class to which the student is assigned. Credits may not be used as biology electives.

BIOL 4840 Laboratory Practicum II

0-6-2

Prerequisite: 12 hours of upper division biology and a GPA of 3.0. Graded “Satisfactory” or “Unsatisfactory.” Individualized instruction and practice in assisting with the operation of biology laboratory exercises in classes that have two or more laboratory periods per week. The student is assigned to one class section for one semester and is expected to assist with all class laboratories. The practicum is directed by the instructor of the class to which the student is assigned. Credits may not be used as biology electives.

BIOL 4850 Biology Internship

0-12-4

Graded “Satisfactory” or “Unsatisfactory.” Open to students who qualify for internship programs in the biological sciences. Credit hours granted are agreed on cooperatively by the Biology Department and the internship supervisor, dependent on the nature of the program and academic work experience. Approval forms must be completed before registration. Grade (Satisfactory/Unsatisfactory) is assigned after submission of written report detailing the work done along with conclusion and evaluation. Only hours of internship credit may be applied toward graduation requirements. Credits may not be used as biology electives.

BIOL 4900 Senior Seminar

0-3-1

Pre- or Corequisite: Completion of all required courses in the senior curriculum for the biology major. Graded “Satisfactory” or “Unsatisfactory.”The capstone course in biology. This course assesses students’ ability to research independently topics in biology, assimilate the information, and disseminate the information in an organized and understandable fashion in both written and oral forms. Besides demonstrating comprehension of their topic and competence in communication skills, students take the ETS Major Field test in biology and complete the departmental Senior Exit Questionnaire for successful course completion.

BIOL 4950 Directed Study

0-12-4

Prerequisite: completion of all required upper-division biology courses with distinctly superior academic records and the consent of the instructor. Limited to selected students with approval of instructor and Department Head. A specific problem to include supervised investigation and a report in format of biological journals.

BUSA: BUSINESSADMINISTRATION**BUSA 2000 Introduction to Business Administration**

1-0-1

Course is available to declared business (BA) majors only. An introduction to business administration. Topics include the environment, culture, and operation of business organizations; careers available in business; individual differences and their effects on career development; business communication technologies including electronic mail and internet; and assessment of individual and organizational outcomes. Satisfactory or Unsatisfactory completion will result in a grade of **S** or **U** respectively.

BUSA 2100 Applied Business Statistics

3-0-3

Prerequisite: MATH 1111 or equivalent. Applications of basic statistical concepts to business environments. Topics include data analysis, measures of central tendency and spread, probability applications, applications of selected distributions, regression, confidence intervals, and hypothesis testing. Business examples and applications are the foundation of instruction. Statistical software is used to analyze results.

BUSA 2106 The Environment of Business

3-0-3

Ethical, social, political, legal, and regulatory issues in the business environment. Topics focus on the conflicting rights and duties of individuals, organizations, and other factions in a domestic and global society that lead to the development of ethical awareness, social responsibility, and law.

- BUSA 3110 Business Law** 3-0-3
Prerequisite: BUSA 2106. An overview of the laws surrounding business transactions in the areas of contracts, sales, commercial paper, and secured transactions. Additional topics include agency, sole proprietorship, partnership, corporate law, consumer transactions, securities regulation, and property law.
- BUSA 3200 Practicum in Free Enterprise** 3-0-3
Required for Students In Free Enterprise (SIFE) certification but open to all majors. Supervised practical application of the principles of entrepreneurship and free enterprise. This course is designed to enhance team building, leadership, and communication skills by creating, organizing, and executing projects in the local and regional communities. This course provides opportunities for networking with community and business leaders.
- BUSA 4900 Business Policy** 3-0-3
Prerequisites: BUSA 2106, MKTG 3050, MGNT 3250, and FIN 3350. Capstone course required of business administration majors. Uses strategic management concepts to integrate functions of business. Emphasis on analysis of business situations, diagnosis of business problems and opportunities, and application of functional and strategic concepts to increase organization effectiveness.

CHEM: CHEMISTRY

- CHEM 1010 Chemistry for World Citizens** 3-2-4
A chemistry course with a focus on real-world societal issues. Students will develop critical thinking skills and an appreciation for the theoretical and practical aspects of chemistry while learning the fundamentals of chemistry. Chemical knowledge will be developed on a need-to-know basis in decision making activities. The course is designed for non-science majors seeking a laboratory science course.
- CHEM 1151K Survey of Chemistry I** 3-2-4
A study of the fundamental principles of chemistry emphasizing modern atomic theory, the structure and behavior of atoms, the properties and states of matter, energy relations, periodicity and mole concepts. Laboratory experiments supplement the study of the listed topics.
- CHEM 1152K Survey of Chemistry II** 3-2-4
Prerequisite: CHEM 1151K with a grade of C or better. A study of the properties, preparation, and reactions of organic compounds in light of modern theories of molecular structure. An overview of the chemistry of living systems including the structure of biological molecules, metabolism, and molecular genetics. Laboratory experiments supplement the study of the listed topics.
- CHEM 1211K Principles of Chemistry I** 3-3-4
Prerequisite or Corequisite: MATH 1111 or 1113. An introduction to a quantitative study of the physical and chemical behavior of matter in its several phases and a consideration of modern theories of bonding forces at the molecular level. Chemical nomenclature, the gaseous state, properties of solutions and reaction kinetics are discussed.
- CHEM 1212K Principles of Chemistry II** 3-3-4
Prerequisites: MATH 1111 or 1113 and CHEM 1211K with a grade of C or better. A continuation of the quantitative study of the physical and chemical behavior of matter in its several phases and a consideration of modern theories of bonding forces at the molecular level. Chemical equilibrium, oxidation-reduction and acid-base chemistry, electrochemistry, chemical thermodynamics and the descriptive chemistry of selected elements and their compounds are discussed.

- CHEM 2210 Sophomore Seminar** 1-0-1
 Discussion of and reports on current topics in chemistry and on topics related to the chemist as a professional. Demonstrated comprehension of topic, knowledge of pertinent literature and competence in communication skills, both oral and written, will be considered in assigning a course grade. Required of majors. One meeting per week.
- CHEM 2310 Quantitative Analysis** 3-3-4
Prerequisite: CHEM 1212K with a grade of C or better. A study of techniques of quantitative analysis, involving volumetric, gravimetric, and instrumental methods. Theory underlying the experimental techniques, methods of recording and statistically evaluating data and calculations utilizing the data are considered. The methods discussed are applied in the laboratory to determine certain constituents in several samples.
- CHEM 2320 Introduction to Environmental Monitoring** 1-6-3
Prerequisite: CHEM 1211K An introduction to spectroscopic, chromatographic, thermal, gravimetric, and electrochemical determinations in various chemical systems of environmental significance. Environmental cycles and environmental degradation will be discussed in the lecture and the methods used to monitor chemical and physical characteristics will be implemented in laboratory sessions.
- CHEM 3401 Organic Chemistry I** 3-4-4
Prerequisite: CHEM 1212K with a grade of C or better. A study of the structure, properties, preparation and reactions of organic compounds in light of modern theories of molecular structure and reaction mechanisms.
- CHEM 3402 Organic Chemistry II** 3-4-4
Prerequisite: CHEM 3401 with a grade of C or better. Continuation of CHEM 3401 with emphasis on spectroscopy, organic synthesis, and reaction mechanisms.
- CHEM 3601 Biochemistry I** 3-0-3
Prerequisites: CHEM 3401 and CHEM 3402 with a grade of C or better and an introductory biology course. Principles of the structure and function of biological molecules including carbohydrates, lipids, proteins, membranes, enzymes and nucleic acids. An overview of the major metabolic and biosynthetic pathways is also presented.
- CHEM 3601L Laboratory Techniques in Biochemistry** 1-3-2
Corequisite or prerequisite: CHEM 3601. Experiments to illustrate the principles and research techniques in biochemistry and molecular biology.
- CHEM 3602 Biochemistry II** 3-0-3
Prerequisite: CHEM 3601 with a grade of C or better. A continuation of CHEM 3601. Comprehensive discussion of regulatory, metabolic and biosynthetic pathways, advanced enzyme kinetics, regulation of gene expression and recombinant DNA technology.
- CHEM 3801 Physical Chemistry I** 3-3-4
Prerequisites: CHEM 3402, MATH 2262, and PHYS 2212K with a grade of C or better. A theoretical and mathematical treatment of the fundamental theories and laws of chemistry with an emphasis on thermodynamics. Experimental investigations will supplement the study of phase diagrams, solution calorimetry, bomb calorimetry, thermodynamic modeling and additional solid, liquid, and gas phase energy transfer studies.
- CHEM 3802 Physical Chemistry II** 3-3-4
Prerequisite: CHEM 3801. A theoretical and mathematical treatment of the fundamental theories and laws of chemistry with an emphasis on quantum mechanics, kinetics, and statistical mechanics. Experimental investigations will supplement the study of quantum mechanics, kinetics, and statistical mechanics as applied to systems of interest to chemists.

- CHEM 4310 Instrumental Analysis** 2-6-4
Prerequisites: CHEM 2310, CHEM 3802. A study of the advantages and the limitations of the use of instruments for the solution of problems in chemical analysis. The physical and chemical processes, instrumentation, and data analysis techniques as applied to mass spectrometry, optical spectroscopy, nuclear magnetic resonance spectroscopy, separations science, electrochemistry, radiochemical analysis, surface analysis, and thermal analysis will be discussed in lecture and utilized in laboratory.
- CHEM 4420 Physical Organic Chemistry** 3-0-3
Prerequisites: CHEM 3402 and CHEM 3802. A study of the methods used to elucidate organic reaction mechanisms. Topics covered include: reaction kinetics, isotope effects; linear free energy relationships; general acid and base catalysis and the acidity functions; reactive intermediates including free radicals, carbenes, carbanions, and carbocations; symmetry controlled reactions; photochemistry.
- CHEM 4510 Advanced Inorganic Chemistry** 3-3-4
Prerequisites: CHEM 3801, CHEM 3802 with a grade of C or better. An advanced course concentrating on specific aspects of inorganic chemistry including discussions of atomic and molecular structure, chemical bonding, isomerism, coordination compounds and descriptive chemistry of selected elements. Three lectures and one three-hour laboratory per week.
- CHEM 4810 Computational Chemistry** 1-3-2
Prerequisite: CHEM 3802 with a grade of C or better. Computational and modeling software will be introduced through projects involving systems in physical chemistry and spectroscopy as well as organic chemistry, inorganic chemistry, and biochemistry. Computational predictions will be correlated with laboratory experimental results, either from literature sources or from laboratory work done by the student.
- CHEM 4910 Laboratory Problems** 0-4-1 to 0-12-3
Prerequisite: Consent of the instructor and approval of the Department Head. Experimental work in analytical, inorganic, organic, physical or biochemistry. The student should have completed at least one semester of a background course in the appropriate area in order for the research to be of an advanced nature at the undergraduate level. Although it is not possible to predict the exact time required for a research project, a student should expect to spend at least four hours per week for each credit hour awarded in this course. A report, in a format suitable for presentation to a chemical journal, shall be presented before credit is awarded.
- CHEM 4920 Special Topics** 1-0-1 to 3-0-3
Prerequisite: Consent of the instructor and approval of the Department Head. Topics and credit to be assigned. May be taken more than once if topics are different.

Credit notations on the far right are in the pattern 3-0-3. The first number is the number of lecture hours (or equivalent) each week; the second number is the number of laboratory hours (or equivalent) each week; the third number, **in bold**, is the number of semester hours credit.

CISM: COMPUTER INFORMATION SYSTEMS MANAGEMENT

- CISM 2201 Fundamentals of Computer Applications** 2-0-2
The fundamentals of how microcomputers and local area networks are used in business. Topics include both hardware and software, with an emphasis on application software. Packages include word-processing, presentation software, internet, spreadsheets, and electronic mail.
- CISM 3450 Management Information Systems** 3-0-3
Prerequisites: CISM 2201 and MGNT 3250. Information processing, meaning and role of information systems, information systems procedures, business functions of computers, introduction to systems analysis and design, files and databases, office automation, data communication, behavioral and organizational implications, selection of hardware and software.

COMD: COMMUNICATION DISORDERS

- COMD 2110 American Sign Language I** 3-0-3
The first in a series of courses based on American Sign Language concepts and principles. This course presents introductory components of ASL, including signs, fingerspelling, mime, body language, and facial expression. Information about the history of sign language and its existence in society today is also included. Skill focus is on recognition and recall of American Sign Language.
- COMD 2120 American Sign Language II** 3-0-3
Prerequisite: COMD 2110. The second in a series of courses based on American Sign Language concepts and principles. This course presents additional components of ASL, including signs, fingerspelling, mime, body language, and facial expression. Skill focus is on recognition and recall of American Sign Language with emphasis on increasing speed and fluency.
- COMD 3010 Introduction to Communication Disorders** 3-0-3
Prerequisites: Admission to Teacher Education and Communication Disorders Program. An introduction to communication disorders. Terminology, etiology and management procedures required in the practice of Speech-Language Pathology are emphasized. Public school observation/participation is required.
- COMD 3020 Introduction to Audiology** 3-0-3
An introduction to basic auditory tests and related psychophysical procedures. Emphasis is placed on audiometric measurement and interpretation.
- COMD 3030 Anatomy & Physiology of the Hearing Mechanism** 2-0-2
The study of the anatomy and physiology of the hearing mechanism.
- COMD 3040 Applied Phonetics** 3-0-3
Co-requisite: COMD 3050. Principles of phonetics and their application to typical speech production. Emphasis is placed on skill development in the use of the International Phonetic Alphabet (IPA) and diacritic markers.
- COMD 3050 Phonetics Lab** 0-2-1
Co-requisite: COMD 3040. A supervised laboratory application of IPA transcription skills.
- COMD 3060 Anatomy & Physiology of the Speech Mechanism** 3-0-3
Prerequisite: COMD 3010. The study of anatomy and physiology of the head, neck and trunk relevant to speech production.

- COMD 3070 Normal Language Acquisition** 3-0-3
An initial study of language acquisition focusing on the sequence and process of typical development in children. Topics include theories of language development, acquisition sequence of the major components of language, variables affecting language acquisition, and clinical application. Open to non-majors.
- COMD 3080 Introduction to Neurology in Communication Disorders** 3-0-3
Prerequisites: COMD 3010. **Co-requisite:** COMD 3060. An introduction to the anatomy and physiology of the nervous system as it relates to speech and language functions.
- COMD 3090 Professional Practices in Communication Disorders** 2-0-2
Prerequisites: COMD 3010, COMD 3040, COMD 3050. An introduction to the process, practices, roles, responsibilities and working site opportunities for the speech-language pathologist.
- COMD 3130 American Sign Language III** 3-2-4
Prerequisite: COMD 2120. The third in a series of courses based on American Sign Language concepts and principles. This course is designed to increase recognition and recall skills in dialogue communication. American Sign Language idioms are also included as well as a deeper understanding of the grammar, syntax, and complexities within the language.
- COMD 3140 American Sign Language IV** 3-2-4
Prerequisite: COMD 3130. The fourth in a series of courses based on American Sign Language concepts and principles. This class is an advanced course in American Sign Language for students who have completed previous coursework in ASL. Emphasis is placed on the production of non-voiced, conversational, spontaneous, signed sentences. Continued attention is given to the development of recognition as well as recall skills. Sociolinguistics with specific reference to syntax and the role of non-manual markers and idioms are explored as well as the interplay between language and culture within the deaf community.
- COMD 3150 Audiological Considerations for Teachers** 4-0-4
An introduction to the types and causes of hearing loss, interpretation of audiograms, and methods and procedures of determining hearing loss as each relates to learning and behavioral characteristics of children and youth with hearing loss.
- COMD 4010 Manual Communication** 3-0-3
An introduction to manual communication. Emphasis is placed on skill development in the use of American Sign Language. Open as an elective to all undergraduate majors.
- COMD 4020 Speech Science** 3-0-3
Prerequisites: COMD 3030, COMD 3060, COMD 3080. **Co-requisite:** COMD 4030. An introduction to the normal processes of communication; the intensification and prolongation of sound, the psychoacoustics of speech sound production and perception; and theories of normal speech production and perception.
- COMD 4030 Speech Science Laboratory** 0-2-1
Co-requisite: COMD 4020. A laboratory application of the research and scientific tools commonly used in speech science.
- COMD 4040 Introduction to Articulation Disorders** 3-0-3
Prerequisites: COMD 3040, COMD 3050, COMD 3070. **Co-requisite:** COMD 4050, SPEC 4020. An introduction to the normal process of speech acquisition and development; theories of speech acquisition and types of disorders of articulation and phonology. Emphasis is placed on the diagnosis and treatment of children with articulation and phonological disorders.
- COMD 4050 Observation** 0-4-2
Prerequisites: COMD 3040, COMD 3070. **Corequisite:** SPEC 4020. Supervised video-based observation of speech and language diagnosis and therapy with children and adults with speech/language disorders. Students obtain a minimum of 25 hours of direct observation for ASHA requirements.

- COMD 4060 Introduction to Oro-Facial/Laryngeal Disorders** 3-0-3
Prerequisites: COMD 4020. An overview of two common areas of organic disorders of oral communication. Introduction to the communication parameters of oro-facial disorders with special emphasis on cleft lip and palate and communication aspects of voice disorders.
- COMD 4070 Introduction to Fluency Disorders** 3-0-3
Prerequisite: COMD 4040. Provides basic information on the characteristics and nature of stuttering and causal theories.
- COMD 4080 Introduction to and Analysis of Language Disorders** 3-0-3
Prerequisites: COMD 3070, COMD 4040. An initial study of the identification of varying types of language disorders. Emphasis is placed on language sampling procedures and analysis.
- COMD 4090 Speech & Language for the Hearing Impaired** 3-0-3
Prerequisites: COMD 3020, COMD 3030, COMD 3070. Application of speech and language therapy principles to the management of hearing impaired children (infants through school age).
- COMD 4100 Seminar in Central Auditory Disorders** 1-0-1
Prerequisites: COMD 3020, COMD 3030, COMD 3080. Special attention will be given to the contribution of the auditory component in disorders of attention and academic learning. The focus is on learning factors of school age children.
- COMD 4110 Diagnostics in Communication Disorders** 3-0-3
Prerequisites: COMD 3010, COMD 3040, COMD 3050, and COMD 4040. An in-depth study of the evaluation and assessment processes for communication disorders. Content encompasses appraisal planning, interviewing, ecological observation, instrumentation, informal and standardized procedures appropriate for determination of eligibility and program planning
- COMD 4150 Directed study** 0-0-1 to 0-0-3
Prerequisites: At least Junior standing; permission of advisor, instructor, and Department Head. A maximum of 3 hours per semester, not exceeding a total of 9 semester hours within the program. Study in area or subject not normally found in established courses offered by the department; may also allow students to explore in more detail and/or depth an area or subject covered by the department in communication disorders.
- COMD 4320 Visual Perceptions of Oral Communications** 3-0-3
 An overview of manual communication systems that support speech reading. Emphasis is placed on Signed English, contact Signing, Sim-Com, Total Communication, and Cued Speech.

COMM: COMMUNICATIONARTS

- COMM 1100 Human Communication** 3-0-3
 A broad approach to oral communication skills including intrapersonal, interpersonal, small group, and public speaking.
- COMM 1110 Public Speaking** 3-0-3
 The organization of materials and the vocal and physical aspects of delivery in various speaking situations.
- COMM 2060 Business and Professional Speech** 3-0-3
 Dyadic, small group, and public communication in situations found in business and professional settings.
- COMM 2100 Introduction to Communication Theory** 3-0-3
 General survey of communication theories to familiarize students with basic constructs in interpersonal, intercultural, organizational, and public communication; to demonstrate the value of theory; and to orient students to the Speech Communication major.

COMM 2500 Fundamentals of Intercultural Communication	3-0-3
A study of how culture shapes language and the impact of language differences on communication between persons with different cultural backgrounds.	
COMM 3010 Oral Interpretation	2-0-2
An introduction to the fundamentals of performance-based activities in oral interpretation emphasizing group, choral, and solo readings. Open as an elective to all undergraduate majors.	
COMM 3060 Persuasion	3-0-3
Prerequisites: COMM 1110 and COMM 2100. Theories of persuasion.	
COMM 3071 Argumentation and Debate	3-0-3
Prerequisite: COMM 1110. Theory and application of argumentation.	
COMM 3072 Debate Lab	0-4-2
Pre- or Co-requisite: COMM 3071. Research and practice on current national debate topics. May be repeated.	
COMM 3090 Public Speaking Lab	0-2-1
Prerequisite: COMM 1110. Research and practice in individual presentations.	
COMM 3200 Contemporary Public Relations	3-0-3
Prerequisites: COMM 1110 and COMM 2100. The first course in public relations, dealing with concepts of communicating with various publics.	
COMM 3210 Public Relations Applications	1-4-3
Prerequisite: COMM 2100 and ACED 2400 or CS 1000. An introduction to computer applications in the practice of public relations including page layout and creating web pages.	
COMM 3220 Public Relations Writing	3-0-3
Prerequisite: COMM 3200. The study of writing techniques and formats for public relations applications, including radio and television public service announcements, video news releases, speech writing, media kit preparation, and print media news releases.	
COMM 3230 Public Relations Practicum	0-2-1
Prerequisites: COMM 3200 and COMM 3210. Skill building in Public Relations techniques. May be repeated.	
COMM 3300 Interpersonal Communication	3-0-3
Prerequisites: COMM 1110 and COMM 2100. The study of communication skills in interpersonal relationships.	
COMM 3310 Listening	2-0-2
Prerequisites: COMM 3300. Study of and skill development in different types of listening.	
COMM 3320 Nonverbal Communication	3-0-3
Prerequisites: COMM 3300. Study of types and functions of nonverbal communication.	
COMM 3330 Interviewing	2-0-2
Prerequisites: COMM 3300. Study of and skill development in interviewing.	
COMM 3400 Organizational Communication	3-0-3
Prerequisites: COMM 1110 and COMM 2100. Communication structures and processes in organizations.	
COMM 3410 Conflict Management and Leadership	3-0-3
Prerequisite: COMM 3300. Strategies of managing conflicts in organizations and the role of leadership style in negotiations.	
COMM 3500 Fundamentals of Cross-cultural Communication	3-0-3
Causes of cross-cultural communication conflicts and strategies for improvement.	
COMM 3600 Directed Study in Communication Arts	<u>1-0-1</u> to <u>3-0-3</u>
Individual instruction for enrichment of advanced majors in their areas of specialization.	
COMM 4110 Contemporary Communication Theory	3-0-3
Prerequisites: COMM 3300 or 3071. Communication theory with an emphasis on social bases and social variables.	

- COMM 4120 Classical Theories of Communication** 3-0-3
Prerequisite: COMM 3300. Survey of communication theory from classical time to Edwin Black.
- COMM 4130 The Psychology and Semiotics of Communication** 3-0-3
Prerequisite: COMM 2100. Origin and purpose of speech, basic psychological principles and language, and the use of propaganda.
- COMM 4170 Theories of Public Communication** 3-0-3
Prerequisite: COMM 2100. Study of rhetorical theory with an emphasis on significant speakers and speeches in the United States. Includes the social origins of the speeches, the nature of the issues discussed, and the consequences of the speaker's activities.
- COMM 4200 Public Relations Techniques** 3-0-3
Prerequisites: COMM 3200 and COMM 3220. The theory and practice of public relations.
- COMM 4220 Communication and the Consumer** 3-0-3
Prerequisites: COMM 3200. Theory and practice of consumer-directed communication.
- COMM 4230 PR Plans and Campaigns** 3-0-3
Prerequisites: COMM 4200. The development of public relations plans for organizations and campaigns for special programs within those organizations.
- COMM 4240 Advanced Public Relations Practices** 3-0-3
Prerequisites: COMM 3220, COMM 3210, and JOUR 3510 and Senior standing. Legal and ethical aspects of professional public relations practice.
- COMM 4310 Small Group Communication** 3-0-3
Prerequisite: COMM 1100 and COMM 2100. The theory and practice of small group communication.
- COMM 4340 Advanced Interpersonal Communication** 3-0-3
Prerequisite: COMM 3300. The science and art of communication in close relationships.
- COMM 4400 Organizational Presentation** 3-0-3
Prerequisite: COMM 1110 and presentational software competency. The study of advanced preparation and presentation techniques in organizations. This course will focus on the practice and understanding of professional presentations using advanced visual aids, the delivery of research reports, and the formulation of extended speeches.
- COMM 4410 Communication Research Methods** 3-0-3
Prerequisite: COMM 3400. The study of research methods used to investigate communication. This course will focus on the implementation, analysis, and interpretation of measures used to examine communication phenomena within organizations including communication audits, network analysis, and content analysis.
- COMM 4420 Advanced Organizational Communication** 3-0-3
Prerequisites: COMM 3400, COMM 3300, and COMM 4410. Communication processes and characteristics in formal organizations. Alternative theoretical perspectives and research methods to analyze communication in organizational settings.
- COMM 4600 Special Topics in Speech Communication** 1-0-1 to 3-0-3
The study of specific genres of public communication, e.g. black rhetoric, social protest, political campaign communication, pulpit speaking, public relations communication, etc. May be repeated for credit if different topics are discussed.
- COMM 4610 Portfolio and Résumé Presentation** 1-0-1
Prerequisite: senior standing. Assembly and presentation of a portfolio and resume acceptable for professional use in the student's area of emphasis.
- COMM 4670 Internship** 3-0-3 to 9-0-9
Prerequisite: Senior standing and major in appropriate specialization. Graded "Satisfactory" or "Unsatisfactory." The placement of students in apprentice and intern positions in professional environments to enlarge the student's professionalism.

COMM 4700 Film as Public Discourse

3-0-3

History of film and its place in the public sphere, its role in public persuasion, and the study of film theorists.

COOP: COOPERATIVE EDUCATION**COOP 1101 Introduction to Parallel Cooperative Education**

1-0-1

Prerequisite: Placement in an approved cooperative education position. Incorporation of skills learned in the co-op experience in students' personal career plans. Course activities include development of a Career Vision Statement, setting measurable performance objectives, and introduction to the Co-op Career Portfolio and networking skills.

COOP 1102 Evaluation of the Parallel Cooperative Education**Work Experience**

1-0-1

Prerequisite COOP 1101. Assessment of students' current co-op employment and development of a plan to assure a progression of work responsibilities consistent with their career plans. Objectives include creation of a Co-op Career Portfolio, update of the Career Vision Statement, and completion of a plan for 3rd and 4th co-op semesters.

COOP 1103 Integration of the Parallel Cooperative Education**Work Experience**

1-0-1

Prerequisite: COOP 1102. Development of a professional network, update of the Co-op Career Portfolio and the Career Vision Statement, and development of a prospectus for the COOP 4990 project.

COOP 2300 Alternating Cooperative Education Work Experience

0-0-0

Prerequisite: Placement in an approved alternating semester cooperative education position. Graded "Satisfactory" or "Unsatisfactory."

Incorporation of the co-op experience as an integral part of students' personal and academic career plans. Course activities include development of a Career Vision Statement, introduction to the Co-op Career Portfolio, and networking skills.

COOP 2310 Parallel Cooperative Education Work Experience

0-0-0

Prerequisite: Placement in an approved parallel cooperative education position.

Graded "Satisfactory" or "Unsatisfactory." Incorporation of skills learned in the co-op experience in students' personal career plans. Course activities include development of a Career Vision Statement, setting measurable performance objectives, and introduction to the Co-op Career Portfolio and networking skills.

COOP 2400 Full-time Cooperative Education Internship

0-0-0

Prerequisite: Placement in an approved full-time cooperative education internship.

Graded "Satisfactory" or "Unsatisfactory." Incorporation of skills learned in the full-time cooperative internship experience with students' personal and academic career plans. Course activities include development of a Career Vision Statement and introduction to the Career Portfolio and networking.

COOP 2410 Part-time Cooperative Education Internship

0-0-0

Prerequisite: Placement in an approved part-time cooperative education internship.

Graded "Satisfactory" or "Unsatisfactory." Incorporation of skills learned in the part-time cooperative internship experience with students' personal and academic career plans. Course activities include development of a Career Vision Statement and introduction to the Career Portfolio and networking.

- COOP 2500 Evaluation and Integration of Alternating Cooperative Education** 3-0-3
Prerequisite: COOP 2300 and placement in an approved alternating cooperative education position. Incorporation of skills learned in the co-op experience into students' personal career plans. Course activities include development of a Career Vision Statement, introduction to the Co-op Career Portfolio, and networking skills,
- COOP 4990 Applied Research Project in Co-op Work Experience** 3-0-3
Prerequisites: COOP 1103 or COOP 2500. A major research project directly related to the student's co-op employment position and major. Students must submit a project prospectus for approval in advance of enrolling in this course. Students must present their completed project in written form to their Co-op Faculty Coordinator and orally to students or faculty in their major area.

CRJU: CRIMINAL JUSTICE

- CRJU 1100 Introduction to Criminal Justice** 3-0-3
 An introduction to the structure, functions, and operations of criminal justice agencies, including the police, the courts, and corrections.
- CRJU 2100 Survey of Law Enforcement** 3-0-3
Prerequisite: CRJU 1100 or permission of the instructor. An overview of law enforcement in a free society and the relationship of police to the criminal justice system as a whole. History, organization, administration, operations, and selected issues such as community policing are examined.
- CRJU 2200 Corrections** 3-0-3
Prerequisite: CRJU 1100 or permission of the instructor. A study of the history, structure, and functions of corrections, and the legal and philosophical basis for the punishment of criminal offenders. Study will include the role of corrections as one of the three major components of the criminal justice system.
- CRJU 2300 Judicial Process** 3-0-3
Prerequisite: CRJU 1100 or permission of the instructor. A study of the jurisdiction, policies, and procedures of courts in the administration of criminal justice.
- CRJU 3300 Criminal Law** 3-0-3
Prerequisite: CRJU 1100. A study of the source and development of criminal law, its application, interpretation, and enforcement, and an analysis of Supreme Court decisions to emphasize problems in due process.
- CRJU 3310 Criminal Procedure** 3-0-3
Prerequisite: CRJU 1100. A study of the nature and function of the law with relation to the criminal process and policies and procedures in the administration of criminal justice. Special attention will be given to United States Supreme Court decisions that govern criminal procedures.

Credit notations on the far right are in the pattern 3-0-3. The first number is the number of lecture hours (or equivalent) each week; the second number is the number of laboratory hours (or equivalent) each week; the third number, **in bold**, is the number of semester hours credit.

- CRJU 3401 Criminal Justice Data Analysis** 3-0-3
Prerequisite: CRJU 1100 or permission of the instructor. An introduction to criminal justice data analysis including the logic of science, operationalization, sampling, coding, data entry, data file management, and microcomputer processing of research information. Will be taught in an electronic classroom, as facility availability permits.
- CRJU 3402 Criminal Justice Research Methods** 3-0-3
Prerequisite: CRJU 1100 or CRJU 3401 or permission of instructor. An introduction to criminal justice research methodologies with an emphasis on firsthand data collection. Project work introduces students to issues in research design, ethical concerns, conceptualization, sampling, data analysis, interpretation of research results, report writing, and application of research findings. Students will use computer applications in the development of their projects.
- CRJU 3600 Criminology** 3-0-3
Prerequisite: CRJU 1100. A study of the nature and scope of crime and delinquency in society with an emphasis on criminological theories. Study will include the application of theory as a foundation for conducting research.
- CRJU 3700 Ethics in Criminal Justice** 3-0-3
Prerequisite: CRJU 1100. Standards of conduct in law enforcement, the court system, and corrections. An examination of traditional and non-traditional criminal justice practices such as fidelity to office, discretion, covert operations, deadly force, affirmative action, political involvement, sentencing, incarceration, and the death penalty.
- CRJU 4010 Comparative Justice Systems** 3-0-3
Prerequisite: Area F Criminal Justice courses or permission of the instructor. A study and comparison of the world's major justice systems.
- CRJU 4100 Seminar in Law Enforcement** 3-0-3
Prerequisite: CRJU 1100 and CRJU 2100 or permission of the instructor. An in-depth study of policies and procedures which govern law enforcement and major contemporary problems in law enforcement.
- CRJU 4110 Forensic Criminology** 3-0-3
Prerequisite: Area F Criminal Justice Courses or permission of the instructor. The scientific investigation of crime with emphasis on the collection, analysis, comparison, and identification of physical evidence.
- CRJU 4200 Seminar in Corrections** 3-0-3
Prerequisite: CRJU 1100 and CRJU 2200 or permission of the instructor. An in-depth study of laws, policies, and procedures which govern corrections and major contemporary problems and issues in corrections.
- CRJU 4500 Classification of Criminal Behavior** 3-0-3
Prerequisite: CRJU 1100 or permission of the instructor. A study of the methods of identification and classification of specific criminal behavior types with and emphasis on violent offenders, sexual deviants, the anti-social personality, and the criminally insane.
- CRJU 4510 Correctional Therapies** 3-0-3
Prerequisite: CRJU 4500 or permission of the instructor. A study of major rehabilitation therapies used by correctional treatment practitioners who work with offenders and their families to help offenders establish socially acceptable and productive lifestyles.
- CRJU 4700 Special Topics in Criminal Justice** 3-0-3 to 6-0-6
Prerequisite: Area F Criminal Justice Courses or permission of instructor. An intensive study of a topic relevant to criminal justice.
- CRJU 4720 Juvenile Justice** 3-0-3
Prerequisite: CRJU 1100 or permission of the instructor. An analysis of the juvenile justice system and related processes. Major emphasis will be placed upon the socio-historical development of the Juvenile Justice System, the impact of Supreme Court decision, and the current controversial issues surrounding the Juvenile Justice System.

- CRJU 4800 Seminar in Criminal Justice** 3-0-3
Prerequisites: CRJU 3300, CRJU 3310, CRJU 3401, CRJU 3402, CRJU 3600, and CRJU 3700. An application and integration of core and related criminal justice courses to contemporary criminal justice issues.
- CRJU 4900 Directed Study in Criminal Justice** 3-0-3 to 6-0-6
Prerequisite: major in Criminal Justice; permission of the student's advisor, the instructor, and the Criminal Justice coordinator or department head. Graded "Satisfactory" or "Unsatisfactory." A study in an area not covered in other criminal justice courses; allows the student to explore in more detail a topic which is normally covered in criminal justice courses. May be taken for a maximum of 6 credit hours.
- CRJU 4910 Internship in Criminal Justice** 0-18-6 to 0-36-12
Prerequisite: major in Criminal Justice; permission of the student's advisor, internship coordinator, and the coordinator. **Criminal Justice application: application forms must be submitted prior to midterm of the semester before internship.** Graded "Satisfactory" or "Unsatisfactory." Supervised, practical experience in an appropriate criminal justice agency; an opportunity for students to demonstrate maturity and judgements to discover the integration between theory and practice.

CRWR: CREATIVE WRITING

- CRWR 3400 Introduction to Creative Writing** 3-0-3
Also offered as ENGL 3400. Prerequisite: ENGL 2110, 2120, 2130, or 2140. An introduction to the stylistic conventions and techniques of poetry and prose. The course also emphasizes techniques of literary invention and offers a brief exposure to the analysis and critique of peer texts.
- CRWR 3420 Introduction to Creative Non-Fiction** 3-0-3
Also offered as ENGL 3420. Prerequisite: ENGL 3400 or CRWR 3400. An introduction to non-fiction writing which employs a variety of literary techniques common in literary journalism and fiction writing. Students will read model texts and further develop workshop and revision techniques in order to produce a carefully revised piece of their own non-fiction.
- CRWR 3440 Poetry Writing** 3-0-3
Also offered as ENGL 3440. Prerequisite: ENGL 3400 or CRWR 3400. A study of poetic technique beyond the fundamentals introduced in ENGL/CRWR 3400. The course emphasizes prosody and poetic forms, both prescribed and organic. Students receive further training in workshop techniques via the analysis of poems produced by class members.
- CRWR 3460 Fiction Writing** 3-0-3
Also offered as ENGL 3460. Prerequisite: ENGL 3400 or CRWR 3400. A craft-oriented course devoted to the genre of the modern short story. Students will study classic stories by writers such as Chekhov, Maupassant, O'Connor, and more recent award-winning writers as well as undertaking exercises in technique and producing at least two stories of their own.
- CRWR 4410 Studies in Prosody and Poetic Form** 3-0-3
Also offered as ENGL 4410. Prerequisite or corequisite: ENGL 3060. A study of the historical and formal developments of poetry. The course will emphasize twentieth-century American poetry, covering principal schools and understanding their relationships.
- CRWR 4420 Studies in Narratology** 3-0-3
Also offered as ENGL 4420. Prerequisite or corequisite: ENGL 3060. A study of the international history of narrative forms, storytelling methods, and varieties of representation. Students will study the various conventions and strategies which inform fables, fairy tales, parables, folktales, and the longer works which evolved from them.

- CRWR 4440 Advanced Poetry Writing** 3-0-3
Prerequisite: CRWR 3440. A workshop-intensive course emphasizing technical analysis of poems produced by members of the class. The course also emphasizes the application of various aesthetic theories, and students will articulate their own poetics.
- CRWR 4460 Advanced Fiction Writing** 3-0-3
Prerequisite: CRWR 3460. A workshop-intensive course in fiction writing. Students will produce their own work and study narrative alternatives and storytelling strategies. Students will also read book-length story collections and/or novels and write stylistic analyses of a major contemporary writer.

CS: COMPUTER SCIENCE

- CS 1000 Introduction to Microcomputers and Applications** 3-0-3
 Computing technology and concepts; applications of personal computers. Topics include hardware and software terminology, word processing, spreadsheets, email, the Internet, the microcomputer's operating system and its use, ethics, and current trends in the use of computers. A hands-on laboratory is integrated with the course. *A student may not receive credit for both CS 1000 and CS 1010.*
- CS 1010 Algorithmic Problem Solving** 3-0-3
 An introduction to algorithm design and programming as components of the software life cycle, with emphasis on the development of algorithms for solving problems; introduction to the development environment for a particular programming language. *A student may not receive credit for both CS 1000 and CS 1010.*
- CS 1301 Principles of Programming I** 4-0-4
Prerequisite: MATH 1101 or MATH 1111, and CS 1010 or equivalent. Programming-language syntax and semantics; problem solving; algorithm design and implementation using modern programming paradigms and techniques; data types and elementary data structures. This course involves extensive programming activities.
- CS 1302 Principles of Programming II** 4-0-4
Prerequisite: CS 1301 with a grade of C or better. A continuation of CS 1301 with emphasis on advanced programming structures and techniques. Theory and applications of stacks, queues, and lists; recursion; file processing; introduction to binary trees. This course involves extensive programming activities.
- CS 1335 Elementary COBOL Programming** 3-0-3
 An introduction to elementary computer programming concepts. Emphasis is on techniques of problem analysis and the development of algorithms and programs. Syntax of the COBOL programming language. The course does not presume previous programming experience.
- CS 1338 Elementary FORTRAN Programming** 3-0-3
 An introduction to elementary computer programming concepts. Emphasis is on techniques of problem analysis and the development of algorithms and programs. Syntax of the FORTRAN programming language. The course does not presume previous programming experience.
- CS 2010 Survey of Computer Information Systems** 3-0-3
Prerequisite: CS 1010 and CS 1301 with a grade of "C" or better. A general introduction to software engineering, database applications, and networking concepts, as well as an overview of other aspects of computer information systems.
- CS 2620 Discrete Structures I** 3-0-3
Prerequisite: MATH 2261. Propositional and predicate logic, mathematical induction, and recursion. Sets, relations, functions. Graphs and trees. Boolean algebra and computer logic. Finite state machines and computability.

- CS 3101 Computer Organization** 3-0-3
Prerequisite: CS 1302. An overview of computer organization and design including Boolean algebra, combinational and sequential circuits, data representation, register transfer and microoperations, CPU organization, microprogrammed control, and machine language programming.
- CS 3102 Assembly Language** 3-0-3
Prerequisite: CS 3101. A continuation of CS 3101 with emphasis on machine and assembly language instruction and programming techniques, addressing modes, data representations, I/O, and the assembly process.
- CS 3300 UNIX and Web Programming** 3-0-3
Prerequisite: CS 1302. The class emphasizes tools that are available in the UNIX environment including: find, grep, sed, awk, shell programming, HTML, Perl, file security, and Web programming.
- CS 3320 Introduction to Visual BASIC** 3-0-3
Prerequisite: CS 1302. An introduction to the fundamentals of the Visual BASIC programming system, basic concepts and methods of object-oriented programming, application-building techniques, Active X controls, wizards, and report generators.
- CS 3330 The Ada Programming Language** 3-0-3
Prerequisite: CS 1302. Modern programming concepts and techniques using Ada. Program units: subprograms, packages, tasks; data types, statements, and atomic language features; blocks; generics; standard packages and I/O; exception handling.
- CS 3335 The C Programming Language** 3-0-3
Prerequisite: CS 1302. Programming using the C programming language. Syntax and semantics of C; information representation; stylistic consideration; the C library. This course also discusses issues relating to the UNIX operating system.
- CS 3410 Data Structures** 3-0-3
Prerequisite: CS 1302. Trees, graphs, and other forms of data structures and their implementations. Emphasizing abstract data types; static memory allocation vs. dynamic storage allocation; searching, hashing, and sorting methods; algorithm analysis.
- CS 3520 Algorithms** 3-0-3
Prerequisite: CS 3410. Sequential and parallel algorithms for solving a variety of different problems; paradigms for algorithms; algorithm analysis; NP-complete problems.
- CS 4121 Data Communications and Networks I** 3-0-3
Prerequisites: CS 3101 and CS 3410. Basic concepts of data communications and computer networks architectures: including OSI and TCP/IP models, packet switching, local area and high speed networks. Error control, routing, and transmission media.
- CS 4122 Data Communications and Networks II** 3-0-3
Prerequisite: CS 4121. A continuation of CS 4121 in which advanced topics in data communication and networking are studied
- CS 4123 Project in Data Communications and Networks** 3-0-3
Prerequisite: CS 4122. Students will work together in teams on a major data communications/networking project. Data communications and networking principles, tools, and techniques are stressed.
- CS 4125 Applied Computer Networks** 3-0-3
Prerequisite: CS 3410. An in-depth study of computer networks including fundamental concepts, design, hardware components, data transmission within the framework of the OSI reference model, transmission protocols, network architectures, administration and support, problem detection and resolution, and principles of Local Area and Wide Area Networks. The subject matter is presented as a case study of a network operating system.

- CS 4321 Software Engineering I** 3-0-3
Prerequisite: CS 3410. Early stages of the software-development process, with emphasis upon analysis and specification. Also, life-cycle definition, software project management, the computer as a system component, and object-oriented approaches. CASE tools will be used as appropriate.
- CS 4322 Software Engineering II** 3-0-3
Prerequisite: CS 4321. The later stages of the software-development process with emphasis upon design, implementation, verification/ validation, and maintenance. Also, human factors, object-oriented techniques, reliability, and quality-assurance issues.
- CS 4323 Project in Software Engineering** 3-0-3
Prerequisite: CS 4322. Students will work together in teams on a major software development project. Software engineering principles, tools, and techniques are stressed.
- CS 4330 Theory of Programming Languages** 3-0-3
Prerequisite: CS 3410 or consent of instructor. Formal description of programming languages, standard and advanced features of modern programming languages, complexity.
- CS 4335 Principles of Compiler Design** 3-0-3
Prerequisites: CS 3102 and CS 3410. Introduction to programming language structure, lexical analysis, syntax analysis, code generation, and optimization. A large programming project will be required.
- CS 4340 Systems Programming** 3-0-3
Prerequisite: CS 3410. Implementation of concepts pertaining to the UNIX environment: process control and interprocess communication, job control, file and directory structures, and client/server processes.
- CS 4345 Operating Systems** 3-0-3
Prerequisites: CS 3101 and CS 3410. A survey of operating systems structures and services including batch systems, multiprogramming, time-sharing, process scheduling and synchronization, deadlocks, memory management, file-system interfaces and implementations, and secondary storage management.
- CS 4350 Applied Operating Systems Concepts** 3-0-3
Prerequisite: CS 3410. A thorough study of an extant operating system which includes the hardware interface; system structure; implementation details with particular attention to the specific details of multitasking, file system management, memory management, security, and client/server relationships; system installation and administration are also included.
- CS 4500 Foundations of Computer Science** 3-0-3
Prerequisites: CS 2620 and CS 3410. Concepts pertaining to regular expressions, finite state machines, regular languages, regular grammars, non regular languages, decidability, context-free grammars, and Turing machines.
- CS 4721 Database Design I** 3-0-3
Prerequisite: CS 3410. The logical organization of databases: the entity-relationship model; the hierarchical model, network, and relational models. Hardware characteristics; file organization and evaluation. Functional dependencies and normal forms. Query optimization, concurrency control, and distributed database systems.
- CS 4722 Database Design II** 3-0-3
Prerequisite: CS 4721. An in-depth study of advanced database design and implementation concepts including transaction processing, concurrency, control techniques, recovery techniques, distributed databases and client/server architecture, and security and authorization.
- CS 4723 Project in Database Design** 3-0-3
Prerequisite: CS 4722. Students will work together in teams on a major database development project. Database development principles, tools, and techniques are stressed.

- CS 4820 Artificial Intelligence** 3-0-3
Prerequisites: CS 2620 and CS 3410. Definition of artificial intelligence, Common Lisp, logic programming, search techniques, knowledge representation including schemas and scripts, ART-enterprise as an expert system, and principles of expert systems.
- CS 4825 Neural Networks** 3-0-3
Prerequisites: MATH 2150 and MATH 2262. Concepts pertaining to neural networks including: definition of neural intelligence, basic neural computational models, learning: supervised and unsupervised, knowledge bases neural networks, back-propagation neural networks, radial basis neural networks.
- CS 4830 Computer Graphics** 3-0-3
Prerequisites: CS 3410 and MATH 2150. A survey of graphics systems and graphics programming. Topics include output primitives, transformations and viewing, modeling, user interfaces, and interactive methods. Both 2-D and 3-D concepts are discussed.
- CS 4900 Senior Seminar** 3-0-3
Prerequisites: CS 3101, CS 3410, and senior standing. A capstone experience intended primarily for computing majors that combines societal, ethical, and legal implications and trends of computing with the development of research and communication skills for the profession. Topics include societal effects of computing, ethics in the field, legal issues, professional literature and organizations, current industrial, social, legal, governmental, and technical developments, research methodology, and career opportunities. Involves extensive reading and writing (both technical and non-technical), as well as library research, prepared group discussions, and oral presentations.
- CS 4950 Directed Study in Computer Science** Variable Credit
Prerequisite: Consent of instructor. The student will undertake at least one major computer-science project under the supervision of the instructor. Credit will be assigned on the basis of the effort required by the project. May be taken more than once if topics are different.
- CS 4990 Topics in Computer Science** Variable Credit
Prerequisite: Consent of instructor. Topics to be assigned. May be taken more than once if topics are different.

DANC:DANCE

- DANC 1500 Introduction to Dance** 3-0-3
 A general survey and appreciation of dance as an art form, an introduction to dance history and a critical evaluation of dance.
- DANC 1600 Ballet I** 1-2-2
 Basic techniques and theories of classical ballet. Emphasizes body placement, awareness, strength, stretch, and terminology. May be repeated for credit.
- DANC 1700 Modern Dance I** 1-2-2
 Basic modern dance techniques and theories. May be repeated for credit.
- DANC 1900 Tap Dance I** 1-2-2
 Basic skills in tap dancing. May be repeated for credit.
- DANC 2600 Ballet II** 1-2-2
Prerequisite: DANC 1600 or approval of department head. A continuation of Ballet I (DANC 1600). May be repeated for credit.
- DANC 2700 Modern Dance II** 1-2-2
Prerequisite: DANC 1700 or approval of department head. A continuation of Modern I (DANC 2600). May be repeated for credit.
- DANC 2800 Jazz Dance I** 1-2-2
 Basic jazz dance techniques and theories. May be repeated for credit.

- DANC 2900 Tap Dance II** 1-2-2
Prerequisite: DANC 1900. A continuation of Tap Dance I (DANC 1900). May be repeated for credit.
- DANC 2910 Social Dance** 0-2-1
 Introduction to history, terms, positions and movements. Psychomotor instruction in social dance forms from the turn of the century to the present.
- DANC 2920 Dance Improvisation** 0-2-1
 An introduction to dance improvisation. Movement studies will be based on modern dance techniques and theories.
- DANC 3000 Dance Composition** 1-2-2
Prerequisite: DANC 1600 or DANC 1700 or approval of department head. The study of the tools of dance composition, creating individual and group studies, and solving dance composition problems.
- DANC 3100 Choreography** 1-2-2
Prerequisite: DANC 3000 or approval of department head. An application of the fundamentals of dance composition to choreographic projects. Emphasis will also be placed on exploring, analyzing, and experimenting with problems in dance performance and production.
- DANC 3200 Dance Ensemble** 0-4-1
Prerequisite: Audition by instructor. A select ensemble emphasizing group and solo performance. May be repeated for credit.
- DANC 3300 Special Topics in Dance** 0-4-2
Prerequisite: Approval of department head. Practicum based on the dance and movement requirements of specific stage performances produced by the University. Students in the course will perform choreographic works or movement studies. May be repeated for credit.
- DANC 3400 Rhythmic and Recreational Dance** 1-2-2
 History and methods of teaching ballroom and square dancing.
- DANC 3410 Dance History** 3-0-3
 A broad survey of dance history with emphasizes on the impact of dance on society from primitive times to the present.
- DANC 3500 Teaching Dance Technique** 1-2-2
 Methodology in teaching dance techniques and theories within the context of modern dance for young adults. Includes instruction in and application of dance lesson planning.
- DANC 3600 Ballet III** 1-2-2
Prerequisite: DANC 2600 or approval of department head. A continuation of Ballet II with emphasis on developing the refined movements of ballet techniques and theories. May be repeated for credit.
- DANC 3700 Modern Dance III** 1-2-2
Prerequisite: DANC 2700 or approval of department head. A continuation of Modern Dance II with emphasis on developing advanced skills in modern techniques and theories. May be repeated for credit.
- DANC 3800 Jazz Dance II** 1-2-2
Prerequisite: DANC 2800 or approval of department head. A continuation of Jazz Dance I. May be repeated for credit.
- DANC 4000 Pointe and Variation** 1-2-2
Prerequisite: DANC 3600 or approval of department head. The study of pointe technique, the teaching of specific classical ballet variations and partnering skills for both the male and female dancer. May be repeated for credit.

ECED: EARLY CHILDHOOD EDUCATION

- ECED 3000 Integrating and Applying Technology into the ECE Curriculum** 3-0-3
Prerequisite: ACED 2400. **Corequisite:** ECED 3190. Explores the intergration and application of technology into the early childhood curriculum. Achieved through modeling and applying teaching and learning strategies; discussions of technology and pedagogy; strategies of classroom management; the review and evaluation of technology and software appropriate for use with young children; and the development of intergrated technology learning activities, which include Georgia's QCC Standards.
- ECED 3190 Practicum I: Classroom Management & Environmental Design Pre-K** 1-3-1
Prerequisite: Admission to Teacher Education. **Corequisites:** ECED 3000, ECED 3400, READ 3200. Supervised classroom experience in selected pre-kindergarten and kindergarten classrooms. Students work under the supervision of mentor teachers and unvestriy supervisors. Emphasis will be on principles of classroom management and the arranged environment.
- ECED 3300 Teaching Mathematics and Science to Young Children** 3-0-3
Prerequisites: MATH 3161. **Corequisites:** ECED 3690. Recent developments in curriculum and methods of instruction of contemporary school mathematics and science programs in grades P-5. Students will become acquainted with manipulatives, technology, and other resources essential to prospective teachers of young children.
- ECED 3400 Planning For Instruction and Classroom Management** 3-0-3
Corequisite: ECED 3190. Fundamentals of teaching across all content area subject matter will be explored including models of teaching, lesson and unit planning, and creating a classroom environment that is conducive to learning.
- ECED 3690 Practicum II: Classroom Management & Environmental Design K-3** 1-3-1
Prerequisites: ECED 3000, ECED 3400, PSYC 3120, READ 3200. **Co-requisites:** ECED 3300, MATH 3000, SCI 3000. Supervised classroom experience in selected kindergarten through third grade classrooms. Students work under the supervision of mentor teachers and university supervisors. Emphasis will be on principles of classroom management and the arranged environment.
- ECED 4000 Teaching Language Arts & Social Studies to Young Children** 4-0-4
Pre-requisites: ECED 3300, ECED 3690, MATH 3000, SCI 3000. **Co-requisites:** ECED 4690, ENGL 4000, READ 4000, READ 4100, GEOG 3410. Recent developments in curriculum and methods of instruction of contemporary language arts and social studies programs in grades P-5.
- ECED 4300 Teaching Language Arts in Early Childhood Education** 3-0-3
Prerequisites: ECED 3000, ECED 3400, READ 3200. **Corequisite:** ECED 4690. The application of methods for teaching listening, speaking, reading, writing, viewing, and visually representing in early childhood. Emphasis is placed on methods of process writing for the genres of journal, descriptive, letter, biographical, narrative, and poetic writing.
- ECED 4400 Social Science Methods in Early Childhood** 3-0-3
Prerequisites: ECED 3000, ECED 3400, READ 3200. **Corequisites:** ECED 4690. Recent developments in curriculum and methods of instruction for the teaching of social sciences in grades P-5
- ECED 4690 Practicum in Early Childhood Education II** 0-3-1
Prerequisites: ECED 3690. **Corequisites:** ECED 4300, ECED 4400, READ 4200. Supervised classroom experience in selected third-grade through fifth-grade classrooms. Students work under the supervision of mentor teachers and university supervisors. Emphasis will be on principles of classroom management and the arranged environment.

ECED 4720 Collaboration With Family, School, and Community

Agencies to Support the Education of Young Children

2-0-2

Prerequisite: All professional courses must be completed with a grade of C or better and GPA requirement must be met. Corequisite: ECED 4790. Examination of nature, extent, and significance of involving families in the education of young children. Interrelationships of home, school, and community agencies are examined in light of various programs, methods, and techniques of parenting education. Leadership skills emphasized in the areas of training, supporting, and guiding teaching assistants within the context of a developmentally appropriate classroom environment.

ECED 4790 Student Teaching & Reflective Seminar in ECE

1-10-10

Prerequisites: All professional courses must be completed with a grade of C or better and GPA requirement must be met. Corequisite: ECED 4720. Guided professional experience in a primary grade (P-5) as a capstone/culminating activity of the Early Childhood Education Program. Student teachers practice teaching and managing a classroom under the supervision of a full-time master teacher and university supervisor in an off-campus setting. The experience includes observations, participation, teaching, and other activities which make a direct contribution to an achievement of basic concepts, skills, and principles in the teaching-learning process. The seminar is a reflection of educational practices and refinement of concepts emanating from the student teaching experience.

ECED 4800 Student Teaching Seminar in Early Childhood Education

2-0-2

Prerequisites: All professional courses must be completed with a grade of C or better and GPA requirement must be met. Co-requisite: ECED 4790. Reflection of educational practices and refinement of concepts emanating from student teaching experience.

Credit notations on the far right are in the pattern 3-0-3. The first number is the number of lecture hours (or equivalent) each week; the second number is the number of laboratory hours (or equivalent) each week; the third number, **in bold**, is the number of semester hours credit.